This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

Princeton University Library
32101 042846236

Library of
Princeton University.

Historical
Seminary.

In memory of

Robert Stockton Pyne.

TRANSACTIONS

OF THE

HISTORIC SOCIETY

OF

LANCASHIRE AND CHESHIRE.

NEW SERIES—VOLUME IX.

SESSION 1868-69.

LIVERPOOL:

ADAM HOLDEN, 48, CHURCH STREET.

1869.

[redacted] (RECAP)

14644
1460 .462
.464 v.21
1968-69

LIVERPOOL:
T BRAKELL, PRINTER, COOK STREET.

This Volume has been edited by the Assistant Secretary, under the direction of the Council. The Writers of Papers are solely responsible for the facts and opinions contained in their respective communications.

EXPLANATORY NOTE.

The cost of the Diagram explanatory of Mr. Welton's papers on Population Statistics has been defrayed by the Author. The cost of the Engraving of the Signaculum of the Saints Ecgwyn and Edwyn, illustrative of Mr. H. Ecroyd Smith's paper, has been defrayed half by the Author and half by the Society. The rest of the Illustrations are published at the cost of the Society.

ERRATA.

Page 137, third line, last column, *for* 26·4, *read* 25·4.
Page 140, seventh line from the top, *for* 186,965, *read* 686,965.
Page 150, ninth line from the bottom, *for* proportions, *read* proportion.

Complete sets of the Society's Transactions (to Vol. XX) may now be had for	£3	4	6
Single Volumes, each	0	5	0
Except Vol. III (first series), the price of which is . .	0	10	0
And Vols. XIX and XX. the price of which is, for each .	0	7	6

1868/69 702738

COUNCIL AND OFFICERS FOR 1868-9.

President.

JOSEPH MAYER, F.S.A.

Vice-Presidents.

REV. A. HUME, D.C.L., &c. | P. R. M'QUIE Esq.
T. G. RYLANDS, F.L.S., &c.

Members of Council.

F. J. BAILEY, M.R.C.S.	H. DAWSON Esq.	T. GIBSON Esq.
E. B. BRIGHT, F.R.A.S.	E. F. EVANS Esq.	F. J. JEFFERY, F.G.H.S.
J. BOULT, F.R.I.B.A.	J. A. FORREST Esq.	J. F. MARSH Esq.
WM. BURKE Esq.	J. H. GENN Esq.	W. MATHISON Esq.
T. DAWSON Esq. M.R.C.S.	J. H. GIBSON Esq.	H. E. SMITH Esq.

Librarian.

NICHOLAS WATERHOUSE Esq., Rake Lane, Liverpool.

Curator.

A. CRAIG GIBSON, F.S.A., Stonesfield, Bebington, Birkenhead.

Treasurer.

JOHN G. JACOB, Esq., 56, Church Street.

Hon. Secretary.

D. BUXTON, F.R.S.L., Oxford Street, Liverpool.

Assistant Secretary.

Mr. CHARLES DYALL, Lyceum, Bold Street, Liverpool.

CONTENTS

[Papers marked thus * are Illustrated.]

PAGE.

Address to the Members of the Historic Society of Lancashire and Cheshire. By Joseph Mayer, F.S.A., President..... 1

*Notices of Roman-British Culinary Vessels, discovered in North Wales. By Henry Ecroyd Smith..... 19

The Last Popular Risings in the Lancashire Lake Country. By A. Craig Gibson, F.S.A., Hon. Curator..... 45

Observations on Population Statistics. Part I. By Thomas A. Welton, Esq. 55

*On Population Statistics. Part II. By Thomas A. Welton, Esq. 93

*Notice of a Mediæval Signaculum of the Anglo-Saxon Saints Edwyn and Ecgwyn. By Henry Ecroyd Smith 165

On Some Oriental Geographers. By F. Boyle, F.G.S. 181

*Archæology in the Mersey District, 1868. By Henry Ecroyd Smith 199

On the Gains and Losses in Historic Progress. By David Buxton, F.R.S.L., Hon. Secretary..... 219

The so-called "Petrified Human Eyes," from the Graves of the Ancient Indians, Arica, Peru. By the Rev. A. Hume, D.C.L., F.S.A., Vice-President..... 225

Biographical Sketch of the late H. L. Elmes, Esq., Architect of St. George's Hall, &c. By J. T. Kilpin, Esq..... 233

Mediæval Signaculum of Saints Edwyn and Ecgwyn. Supplemental and Correctional Note. By Henry Ecroyd Smith ... 253

List of Members vii

Proceedings, Twenty-first Session 257

Report presented at the Annual Meeting ..... *ib.*

Treasurer's Balance Sheet 260

Excursion 264

Donations to the Library 265

LIST OF ILLUSTRATIONS.

PLATE.		PAGE.
I.	Roman-British Culinary and Dietary Utensils, discovered near Abergele, Vale of Clwyd.....	to face 21
II.	Diagrams Illustrating how the observed Mortality is affected by the Immigration of Young People from the Rural Districts into Towns	„ 115
III.	Ampulla of Pewter—a Religious Signaculum of the Anglo-Saxon Saints Edwyn and Ecgwyn...	„ 169
IV.	Unpublished Seal of the Consistory Court of St. Asaph	„ 203

LIST OF MEMBERS.

The List of Members is made up to date of publication of this Volume,

(March 18th, 1870.)

The first List was dated 23rd November, 1848; all whose names appeared in it are therefore Original Members. Those who have been enrolled as Mayors or Sheriffs have their year of office attached.

The letter P denotes that the Members, in connexion with whose names it occurs, have read papers before the Society.

Those whose names are printed in SMALL CAPITALS are Members of the Council; and in *Italics* are Life Members.

Those marked thus * are Resident. The post town Liverpool is usually omitted.

A

23rd Nov., 1848. *Ainslie, Montague*, Grizedale hall, Hawkshead, Windermere.

Feb. 11th, 1869. *Amer, Stephen, Bridge street, Birkenhead.

4th Dec., 1862. *Anderson, John, 42, Bold street.

17th Dec., 1857. *Anderson, Thomas Darnley, West Dingle.

4th Dec., 1856. Ansdell, John, St. Helens.

23rd Nov., 1848. Ansdell, Richard, A.R.A., Lytham house, St. Alban's road, Kensington, London, W.

15th Sept., 1854. Arrowsmith, P. R., The Ferns, Bolton.

2nd Dec., 1858. Artingstall, George, Warrington.

P. 4th Dec., 1862. Ashfield, Charles Joseph, 9, Regent street, Preston.

H. Sh. Cheshire, 1857. *Atkinson, William*, Ashton heyes, Chester.

B

2nd Nov., 1865. *BAILEY, F. J., M.R.C.S., 51, Grove street.

8th June, 1854. *Banning, John Johnson, 20, Castle street.

1st Mar., 1866. *Barrow, S., 328, Vauxhall road, and Seaforth.

7th Feb., 1861. *Bartlett, William, 22, North John street.

1st Dec., 1864. *Bath, John D., Garston.

6th Mar., 1862. *Bazley, Sir Thomas, Bart.*, M.P., Hayesleigh, Manchester, and Reform Club, London, S.W.

P.	6th Dec., 1849.	Beamont, William, Warrington.
	21st May, 1857.	*Bean, Edwin, Revenue buildings.
	23rd Nov., 1848.	*Bell, Henry, Hamilton square, and Grosvenor road, Claughton, Birkenhead.
P.	1st Dec., 1864.	*Benas, B. L., 5, South Castle street.
	23rd Nov., 1848.	*Bennett, William, Sir Thomas's buildings, and Heysham, near Lancaster.
	7th March, 1850.	Birch, Sir Thomas Bernard, Bart., The Hazles, Prescot.
	23rd Nov., 1848.	Birchall, Lieut.-Col. Thomas, Ribbleton hall, Preston.
	4th March, 1852.	Birley, Rev. John Shepherd, Moss Lea, Bolton-le-Moors.
P.	8th Jan., 1852.	Birley, T. Langton, Carr hill, Kirkham.
	23rd Nov., 1848.	Blackburne, John Ireland, The Hall, Hale.
	20th Sept., 1854.	Blackmore, William, Carshalton, Surrey.
	23rd Nov., 1848.	*Blundell, Thomas Weld, Ince Blundell hall, Great Crosby.
	1st May, 1856.	Booth, John Billington, Overleigh house, Preston.
	15th Dec., 1853.	Bossi, Arthur, Paris.
	3rd Jan., 1856.	*Bouch, Thomas, 1, Oldhall street, and New Brighton.
P.	23rd Nov., 1848.	*Boult, Joseph, F.R.I.B.A., Exchange buildings West, and Parkfield road, Aigburth road.
	8th Dec., 1851.	Bourne, Cornelius, Stalmine hall, Preston.
	15th April, 1858.	*Bower, Anthony, Vauxhall foundry, & Seaforth.
	6th Dec., 1855.	Bowes, John, Blue Coat School, Warrington.
	3rd Dec., 1868.	Boyle, Henry, Ella House, Ambleside.
P.	12th Dec., 1867.	Boyle, Frederick, F.R.G.S., Pennant's house, Bebington.
	13th Nov., 1851.	Brackstone, R. H., Lyncombe hill, Bath.
	17th Dec., 1857.	*Bradley, William Gibson, 52, Bold street.
	Mayor Liv., 1848-9.	*Bramley-Moore, John, Hon. Mem. Archæol. Association, Aigburth.
	30th Dec., 1854.	Brent, Francis, Custom house, Plymouth.
P.	7th May, 1863.	*Bright, E. B., 2, Exchange buildings, and Waterloo.
P.	9th March, 1854.	*Bright Henry Arthur, A.M., Fairfield, and 1, North John street.
	4th Feb., 1864.	Bright, Sir Charles Tilston, M.P., C.E., F.R.S., 12, Hyde park gardens, London.
	3rd May, 1849.	Brooke, Henry, Forest hill, Northwich.

6th Mar., 1851. *Brooke, Sir Richard, Bart.*, Norton priory, Runcorn.

20th Feb., 1868. Burgess, Rev. W. R., B.A., Latchford, Warrington.

6th Feb., 1868. Brooks, William Cunliffe, M.P., Barlow Hall, near Manchester.

1st Nov., 1866. Brooks, William Murray, St. James's Schools, Accrington.

17th Sept., 1854. Burnell, Rev. Samuel, A.M., Winwick, Warrington.

P. 15th Dec., 1853. *Buxton, David, F.R.S.L., Principal of the Liverpool Deaf and Dumb Institution, Oxford street, Hon. Secretary.

C

23rd Nov., 1848. *Caine, Nathaniel, 12, Dutton street.

3rd Dec., 1857. *Calder, Rev. William, A.M., Fairfield.

1st Dec., 1859. Callender, W. Romaine, jun., F.S.A., Ashburne house, Rusholme, Manchester.

P. 6th Dec., 1855. Calvert, F. Crace, Ph. Dr., F.R.S., F.C.S., M.R.A. Turin, Chemical Works, Gibson street, Bradford, near Manchester.

23rd Nov., 1848. *Campbell, Rev. Augustus, A.M., the Vicarage, Childwall.

18th Dec., 1856. *Campbell, Wm., Captain & Adjutant R.L.M.A., Artillery barracks, Rupert lane.

3rd Dec., 1868. *Cape, John, 22, North street.

3rd Dec., 1857. *Chadburn, Charles Henry, 71, Lord street, and Egremont, Birkenhead.

H. Sh. Chesh., 1855-6. *Chapman, John*, Hill End, Mottram-in-Longdendale.

14th April, 1859. *Clement, Leonard*, Nelson-in-Marsden, near Burnley.

24th May, 1855. *Comber, Thomas*, Hargreaves buildings, Chapel street.

4th March, 1858. Crawford and Balcarres, Right Hon. the Earl of, Haigh hall, Wigan.

6th Dec., 1849. *Crosfield, Henry, 4, Temple place, and Aigburth

23rd Nov., 1848. Crosse, Thomas Bright, Shawe hill, Chorley.

2nd May, 1850. Crossley, James, F.S.A., President of the Chetham Society, 6, Booth street, Piccadilly, Manchester.

P. 23rd Nov., 1848. *Cust, General the Hon. Sir Edward, K.C.H., D.C.L., Leasowe Castle, Cheshire.

D

23rd Sept., 1854. *Davies, Comenius, 8, Kinglake street, and Borough Engineer's Office, Dale street.

23rd Nov., 1848. **Dawson*, *Henry*, 30, Redcross street, and 14, St. James's road.

P. 2nd May, 1850. *Dawson, Thomas, M.R.C.S. Eng., 26, Rodney st.

6th Mar., 1862. *Derby, Right Hon. the Earl of*, Knowsley hall, Lancashire, and 23, Saint James's square, London, S.W.

23rd April, 1857. *Devonshire, His Grace the Duke of*, K.G., D.C.L., F.R.S., Chatsworth, Derbyshire, and Devonshire house, London.

E

9th Dec., 1852. *Eckersley, Thomas*, Wigan.

6th Mar., 1862. *Edwards, Edward, Adelaide buildings, Chapel street, and Holly lodge, Fairfield.

6th Mar., 1862. Egerton, Hon. Algernon, M.P., Worsley Old hall, Manchester.

7th Jan., 1851. *Egerton, Hon. Wilbraham*, M.P., Rosthern hall, Knutsford.

6th Mar., 1862. *Egerton of Tatton, Rt. Hon. the Lord*, Tatton park, Knutsford.

23rd Nov., 1848. *Egerton, Sir Philip de Malpas Grey*, Bart., M.P., F.R.S., F.G.S., Oulton park, Tarporley.

9th Jan., 1868. *Ellerbeck, J. T., Bold street.

12th Dec., 1867. *Elsby, Miles Pilling, Bebington.

23rd Nov., 1848. *Evans, Edward, 56, Hanover street.

P. 4th Nov., 1858. *Evans, Edward Francis, Revenue buildings.

F

3rd Dec., 1857. Fairbairn, Sir William, Bart., D.C.L., F.R.S., Manchester.

ffarrington, Miss, Worden Hall, Preston.

23rd Nov., 1848. *Finlay, William, Liverpool College, and Shaw street.

P. 15th April, 1858. *Forrest, J. A., 58, Lime street, and 5, Charlesville, Claughton, Birkenhead.

7th May, 1857. *Frackelton, Rev. S. S.*, A.M., Ballynahinch, Ireland.

15th Dec., 1853. *Franks, Augustus Woollaston*, A.M., F.S.A., British Museum, London.

7th Jan., 1858. Frost, Meadows, 25, The Albany, Oldhall street, and St. John's house, Chester.

G

14th Dec., 1848. *Gardner, Richard Cardwell, Colonial buildings, 34, Dale street, and Croxteth road.

3rd May, 1849. Garnett, Wm. J., Quernmore park, Lancaster.

23rd Nov., 1848. *Gaskell, John Rooth, Exchange court, Exchange street East.

11th April, 1867. **Genn, John Hawke*, 18, Mersey road, Rock Ferry.

18th Dec., 1856. *Gerard, Henry, 10, Rumford place.

P. 1st May, 1862. *Gibson, J. H., 144, Vauxhall road.

P. 5th Nov., 1863. *Gibson, Thomas, 51, Oxford street.

6th March, 1862. *Gladstone, Right Hon. W. E.*, M.P., 11, Carlton house terrace, London, S.W.

4th Dec., 1862. *Goodier, Thomas, 110, St. Domingo vale, and 6, Lord street.

19th Dec., 1852. *Graves, Samuel Robert, M.P., 13, Redcross street, and The Grange, Wavertree.

6th Feb., 1851. Gray, Lieut.-Colonel, M.P., Darcy Lever hall, Bolton.

4th Dec., 1862. Green, John Henry, Buenos Ayres.

16th Sept., 1854. Greene, John Stock Turner, Adlington hall, Chorley.

31st Aug., 1854. Grenside, Rev. William Bent, A.M., Melling Vicarage, Lancaster.

19th Mar., 1857. *Grimmer, W. Henry, Prince's buildings, 30, North John street.

H

1st Dec., 1864. *Haigh, Thomas, 47, Boundary lane.

21st May, 1857. *Hall, Charlton R., 19, Dale street, and Liscard castle, Birkenhead.

10th Dec., 1857. *Hancock, Thomas S., Sweeting street, and Birkenhead.

P. 6th Mar., 1856. Hardwick, Chas., 148, Embden street, Hulme, Manchester.

12th Jan., 1854. *Harrison, Wm.*, F.S.A., F.G.S., F.R.S. North. Antiq., &c., Samlesbury hall, Preston; Conservative Club, St. James's, S.W.; and R.T.Y. Club, Albemarle street, W.

9th Feb., 1864. *Harrowby, Rt. Hon. the Earl of*, D.C.L., F.R.S., Sandon hall, Staffordshire, and 39, Grosvenor square, London.

23rd April, 1857. *Hartington, Most Hon. the Marquess of*, M.P., Chatsworth, Derbyshire, & Devonshire house, London.

P. 11th Oct., 1854. *Hartnup, J., F.R.A.S., Observatory, Bidston, Birkenhead.

8th Dec., 1864. Heald, Thomas, Greenfield, Billinge, Wigan.

27th Sept.,1854. *Healey, Samuel R., 7, Dale street, and Westbank, Woolton.

24th Oct., 1854. Heginbottom, George, Birkdale park, Southport.

2nd April, 1868. *Hewitt, James, 1, Dover street.

23rd Nov., 1848. *Heywood, James*, F.R.S., F.S.A., F.G.S., 26, Kensington Palace Gardens, London, W.

23rd Sept., 1854. *Hindmarsh, Fred.*, F.G.S., F.R.G.S., 4, New Inn, Strand, London, W.C.

12th Jan., 1860. *Holden, Adam, 48, Church street.

18th Jan., 1866. *Holden R., 57, Dale street.

18th Dec., 1856. *Holden, Thomas*, Springfield, Bolton.

24th Sept., 1854. *Holt, William D., 23, Edge lane.

23rd Nov., 1848. *Horsfall, Thomas Berry, Bellamour hall, Rugeley, Staffordshire.

6th Dec., 1860. *Houghton, James, 84, Rodney street.

14th April, 1853. **Houghton, Richard H.*, Sandheys, Waterloo.

4th Dec., 1856. *Howell, Edward, 26, Church street.

Mayor Lan., 1849-50. Howitt, Thomas, Lancaster.

P. 8th Nov., 1849. *Howson, Very Rev. John Saul, D.D.*, The Deanery, Chester.

27th Sept., 1854. *Hubback, Joseph, 1, Brunswick street, and Rodney street

P. 10th Dec., 1857. *Hughes, John R., 17, Tower chambers.

6th April, 1854. Hughes, Thomas, 2, Groves terrace, Chester.

8th Feb., 1862. Hulton, William Adams, Hurst grange, Preston.

Mayor Ch. 1851-52. Humberston, Philip Stapleton, Chester.

P. 23rd Nov., 1848. **Hume, Rev. Abraham*, D.C.L., LL.D., F.S.A., F.R.S. North. Antiq. Copenhagen, Corr. Mem. S.A. Scot., Hon. Mem. of the Society of Antiquaries, Newcastle-upon-Tyne, 6, Rupert lane, PRESIDENT.

21st May, 1857. *Hume, Hamilton*, F.R.G.S., Cooma, Yass, New South Wales.

10th Feb., 1870. Hyde, John, Hesketh street, Southport.

J

1st April, 1852. *Jacob, John Gibborn, 56, Church street, TREASURER.

5th Dec., 1861. Jackson, William, Fleatham house, St. Bees.

23rd Nov., 1848. Jacson, Charles R., Barton hall, Preston.

P. 2nd May, 1861. *JEFFERY, F. J., 45, Church street, and Woolton hall.

21st May, 1857. *Jeffery, James Reddecliffe, 45, Church street, and Woolton hall.

23rd Nov., 1848. *Johnson, John H., 7, Church street, and Southport.

23rd Sept., 1854. Jones, Edward, The Larches, Handsworth.

3rd May, 1849. *Jones, Morris Charles, 20, Abercromby square.

2nd Dec., 1858. *Jones, Robert, 7, Batchelor street.

6th Dec., 1849. *Jones, Roger L., Sunnyside, 1, Belvidere road, Prince's park.

15th Sept., 1854. Jones, Thomas, B.A., F.S.A., Chetham Library, Manchester.

11th Dec., 1856. Jones, W. Hope, Hooton, Chester.

9th Jan., 1868. Jones, Rev. Charles, Rock Ferry.

K

P. 3rd May, 1849. Kendrick, James, M.D., Warrington.

P. 5th March, 1868. *Kilpin, J. T., Trafford chambers, 58, South John street, and 6, Grove street.

4th Dec., 1862. *King, Lieut.-Col. Vincent Ashfield, 18, Tower chambers, and Point of Ayr, Oxton.

5th Nov., 1863. *King, John Thomson, Clayton square.

L

6th March, 1862. *Laird, John, M.P., Hamilton square, Birkenhead.

23rd Nov., 1848. Langton, William, —— Bank, Manchester.

Leigh, Miss, The Limes, Hale.

23rd Nov., 1848. Legh, G. Cornwall, M.P., High Legh, Knutsford.

1st Dec., 1859. *Legh, W. J.*, M.P., Lyme park, Disley, Stockport.

10th Dec., 1857. *Leigh, Major Egerton*, The West hall, High Leigh, Knutsford.

1st Nov., 1866. *Lilley, John H., H.M. Customs, Revenue buildings.

M

6th Mar., 1862. McCorquodale, Lieut.-Colonel G., Newton-le-Willows.

15th April, 1858. *McInnes, J., 23, Lightbody street.

27th Sept., 1854. *Macfie, Robert Andrew, M.P., 30, Moorfields, and Ashfield hall, Neston.

23rd Nov., 1848. M'QUIE, PETER ROBINSON, 9, Brunswick street, and Thornton lodge, Merton road, Bootle, VICE-PRESIDENT.

5th May, 1853. **Macrae, John Wrigley*, 22, Hackin's hey, and Seaforth house, Seaforth.

23rd Nov., 1848. *Marsden, George, Old Churchyard, and Vernon priory, Edge hill.

1st Dec., 1859. Marsh, John, Rann lea, Rainhill.

P. 5th June, 1851. MARSH, JOHN FITCHETT, Fairfield house, Warrington.

1st Dec., 1864. Marson, James, Warrington.

1st Dec., 1864. *Mathews, John, Highfield, Rock Ferry, Birkenhead.

6th Mar., 1862. *MATHISON, WILLIAM, 11, Dale street.

P. 23rd Nov., 1848. *MAYER, JOSEPH, F.S.A., M.R. Asiat. S., F.E.S., F.R.S. North. Ant. Copenhagen, Associé étranger de la Société Impériale des Antiquaires de France, Hon. Mem. SS. Anti., Normandie, l'Oûest, la Morinie, Société d'Emulation d'Abbeville, &c., 68, Lord street, VICE-PRESIDENT.

7th Dec., 1865. *Miller, Henry, Toxteth dock.

2nd Jan., 1862. *Milligan, James, jun., Eldwood End, Grassendale, Aigburth.

21st Feb., 1861. Mills, John, Middle School, Warrington.

20th May, 1860. Mills, Robert, F.S.A., F.G.S., 27, Promenade, Rochdale.

P. 21st Dec., 1854. *Milner, William, Bentley road, and Phœnix Safe Works, Windsor.

3rd Dec., 1857. Moore, Rev. Richard R., A.M., St. Anne's, Eccleston, St. Helens.

P. 8th Nov., 1849. Moore, Rev. Thomas, A.M., Midleton College, County of Cork.

P. 23rd Nov., 1848. *Moss, Rev. John James, LL.D., East Lydford Rectory, Somerset.

3rd Dec., 1863. Moubert, Adolphus, Garswood-Ashton, Warrington.

3rd Dec., 1857. Moult, William, 21, Leigh street, and Knowsley.

11th Dec., 1856. Myres, John James, Bank parade, Preston.

N

H. S. Ches. 1857. *Naylor, Richard*, Hooton hall, Chester.

P. 1st Nov., 1866. Newbigging, Thomas, Bacup.

19th Mar., 1863. Newsham, Richard, Preston.

23rd Nov., 1848. Nicholson, James, F.S.A., Thelwall hall, Warrington.

29th Sept., 1854. *Nottingham, John, M.D., F.R.A.S., F.R.S. Northern Antiquaries, Copenhagen, 20, Roscommon street.

O

P. 6th Dec., 1849. Ormerod, George, D.C.L., F.R.S., F.S.A., F.G.S., Sedbury park, Chepstow.

3rd Jan., 1850. *Overend, James, 55, Hope street.

3rd Dec., 1857. Oxley, Frederick, 6, Hungerford rd., London, N.

P

23rd Nov., 1858. *Paris, Thomas Jeremiah, 68, Lord street.

18th Dec., 1856. Parker, Robert Townley, Cuerdon hall, Preston.

7th Mar., 1850. *Patten, Right Hon. John Wilson*, M.P., Bank hall, Warrington.

6th Dec., 1849. Pearce, George Massie, Hackin's hey, and Ormskirk.

11th Dec., 1856. *Pedder, Henry Newsham*, 9, Queen's gate, Prince Albert road, South Kensington, London, S.

1st Dec., 1864. Perry, Rev. S. G. F., M.A., Incumbent of Tottington, near Bury.

21st March, 1860. **Petty, Thomas Shaw*.

12th Dec., 1867. Pickering, James, Fisher house, Orrell, near Wigan.

P. 6th Jan., 1849. *Picton, James Allanson, F.S.A., Queen Insurance buildings, Dale street, and Sandyknowe, Wavertree.

3rd May, 1849. Pierpoint, Benjamin, St. Austin's, Warrington.

23rd Nov., 1848. Pilkington, James, Park pl. House, Blackburn.

10th Feb., 1853. *Platt, Robert*, Stalybridge.

1st Dec., 1864. *Porter, John, Clayton square.

12th March, 1857. *Preston, Geo. Theo. Robert, 13, Vernon street, Dale street, and Belmont house, Belmont rd.

6th Dec., 1849. *Preston, William, 13, Vernon street, and Ellel Grange, near Lancaster.

14th Jan., 1864. *Priest, Thomas E., Clarendon rooms, South John street.

R

15th March, 1849. Rawlinson, Robert, C.B., C.E., F.G.S., Sanitary Commissioner, Local Government Act Office, 8, Richmond terrace, Whitehall; and Lancaster lodge, Boltons, West Brompton.

13th Sept., 1854. *Raynes, James Trevelyan, 37, Oldhall street, and Rock park, Rock Ferry.

29th Dec., 1854. Rees, William, Old Trafford, Manchester.

3rd Dec., 1863. Rhodocanakis, Captain H.H. the Prince, Manchester.

20th Dec., 1855. Robin, Rev. P. R., A.M., Woodchurch, Birkenhead.

23rd Nov., 1848. *Robinson, Charles Backhouse.

1st Dec., 1864. *Robinson, John, 41, Lord street.

3rd Jan., 1850. *Ronald, Robert Wilson, 19, Dale street.

15th April, 1858. Rooke, Rev. W. J. E., M.A., Tunstal Vicarage, Kirby Lonsdale.

15th April, 1858. Rowlinson, W., Windermere.

25th Sept., 1854. Rylands, Peter, M.P., Bewsey house, Warrington.

P. 13th Dec., 1854. RYLANDS, THOMAS GLAZEBROOK, F.L.S., F.G.S., Warrington, VICE-PRESIDENT.

S

6th Dec., 1855. *Sandbach, W. R., Bank buildings, Cook street, and The Cottage, Aigburth.

P. 7th Sept., 1851. Sansom, Thomas, F.B.S.E., Custom House, Newcastle-on-Tyne.

8th Jan., 1852. Sharp, John, The Hermitage, Lancaster.

23rd Nov., 1848. Sharpe, Edmund, A.M., Cwm Alyn, Llanrwst, North Wales.

2nd June, 1853. *Sharpe, William*, 102, Piccadilly, London.

23rd Nov., 1848. *Simpson, Rev. Samuel*, A.M., The Greaves, near Lancaster.

P. 16th April, 1863. *SMITH, HENRY ECROYD, Aldboro' house, Egremont, Birkenhead.

2nd May, 1850. **Smith, James*, Berkeley house, Seaforth.

16th Sept., 1864. Smith, John, Langley, near Macclesfield.

20th Feb., 1868. Smith, Samuel, jun., 8, Croxteth road, Prince's park.

12th Mar., 1863. *Squarey, Andrew Tucker, Gorsey Hey, Higher Bebington, and Dock Office.

2nd Nov., 1854. Stainer, William, Old Trafford, Manchester.

3rd Jan., 1856. *Staniforth, Rev. Thomas*, M.A., Storrs, Windermere.

5th Feb., 1863. Steele, Alexander, Ph.Dr., Bay View house, The Crescent, Douglas, Isle of Man.

13th Dec., 1855. *Steiner, F.*, Hyndburn, Accrington.

4th Mar., 1852. *Sykes, James, 115, Dale street, 78, Rodney street, and Breck house, Poulton-le-fylde.

T

18th Nov., 1869. *Thomas, George, Lord street.

18th Feb., 1858. *Thompson, Henry, 153, Upper Parliament st., and 11, North John street.

13th Sept., 1854. *Thornley, Samuel, Deane road, Fairfield.

17th Jan., 1867. *Thorp, Henry*, Whalley Range, Manchester.

P. 8th Dec., 1851. *Tinne, John A., F.R.G.S., Briarley, Aigburth.

8th Jan., 1852. *Torr, John, 15, Exchange buildings West, and Eastham.

H.S. Lanc., 1857. Towneley, Charles, Towneley, Burnley.

P. 2nd April, 1857. *Towson, John Thomas, F.R.G.S., 47, Upper Parliament street, and Sailors' Home.

14th April, 1863. *Turner, Charles, M.P., 4, Lancelot's hey, and Dingle head.

27th Sept., 1854. *Turner, John Hayward, 23, Abercromby square.

6th Dec., 1849. Turner, Edward, High street, Newcastle, Staffordshire.

U

8th Mar., 1854. Underwood, Rev. Charles W., A.M., Histon Vicarage, Cambridge.

V

23rd Nov., 1848. **Varty, Thomas*, Stag-stones, Penrith.

16th Dec., 1869. Vaudrey, Benjamin Llewellyn, Tushingham hall, Whitchurch.

14th April, 1853. *Vose, James, M.D., 5, Gambier terrace, Hope street.

W

Myr. C. 1838-39, 48-49. *Walker, Sir Edward Samuel*, Berry hill, Mansfield, Notts.

11th Dec., 1856. *Walmsley, Thomas*, Preston.

Dec. 3rd, 1868. *Walthew, J. M., 1, Tower chambers, and 30, Percy street.

12th Dec., 1867. *Walmsley, Gilbert G., Lord street.

6th Mar., 1851. Warburton, Rowland Eyles Egerton, Arley hall, Cheshire.

21st May, 1857. Ward, John Angus, Hooton Lodge, Chester.

3rd May, 1864. *Waterhouse, John Dockray, 1, Oldhall street.

P. 5th Dec., 1861. *Waterhouse, Nicholas, Rake lane.

17th Dec., 1857. Watts, Sir James, Manchester.

2nd May, 1850. *Way, Albert*, A.M., F.S.A., Wonham manor, Reigate, Surrey.

1st Feb., 1849. *Webster, George, 6, York buildings, Dale street, and Mossley hill, Aigburth.

P. 3rd Jan., 1856. *Welton, Thomas A.*, F.S.S., 91, Mortimer road, De Beauvoir square, London, N.

13th Mar., 1862. Westminster, Most Noble the Marquess of, 33, Upper Grosvenor street, London, and Eaton hall, Chester.

2nd June, 1853. *Whitley, George, 5, Clayton square, and Bromborough.

9th Oct., 1854. Whitley, Rev. John, A.M., Newton rectory, Newton-le-Willows.

6th June, 1850. Whitley, Rev. William, B.A., Catsclough, Winsford, Cheshire.

P. 30th Nov., 1854. Wilkinson, Thomas Turner, F.R.A.S., Corr. Mem. Lit. and Phil. Soc. Manch., Burnley.

14th Feb., 1861. Wilson, J. M., Hardshaw street, St. Helens.

13th Nov., 1866. *Winder, Thomas, Coniston House, Walton.

23rd Nov., 1848. Wood, Isaac Moreton, Newton, near Middlewich.

7th Dec., 1865. *Wood, R. H.*, F.S.A., F.R.G.S., Mem. Corr. Soc. Antiq. de Normandie, Crumpsall, Manchester.

7th May, 1855. **Woodhouse, John George*, Bronte House, Everton Valley.

14th May, 1868. *Wordley, W. G., 15, Sweeting street.

HONORARY MEMBERS.

6th Feb., 1851. Akerman, John Yonge, Hon. M.R.S.L.; F.S.A. Newcastle; F.R.S. of Northern Antiquities; Corr. Mem. SS. Antiq. Scot., France, Russia, Switzerland, Rome; Hon. Mem. Roy. Acad., Stockholm; London.

27th Sept., 1854. Babington, Charles Cardale, A.M., F.R.S., F.S.A., F.L.S., Professor of Botany, Cambridge.

6th Feb., 1851. Blaauw, William Henry, A.M., F.S.A., Beechland, Uckfield.

1st Nov., 1860. Brown, James, New York, U.S.A.

6th Feb., 1851. Charlton, Edward, M.D., F.S.A. Newc., 7, Eldon square, Newcastle-upon-Tyne.

P. 1st Feb., 1855. Clarke, Joseph, F.S.A., Saffron Walden, Essex.

19th May, 1859. Cochet, M. L'Abbé, Inspector of Antiquities and Monuments in Normandy, Dieppe.

27th Sept., 1854. Gray, John Edward, Ph.D., F.R.S., F.L.S., &c., British Museum, London.

P. 27th Sept., 1854. Latham, R. Gordon, M.D., F.R.S., 99, Disraeli road, Putney, London.

9th Dec., 1852. MacAdam, Robert, 18, College square East, Belfast.

27th Sept., 1854. Murchison, Sir Roderick Impey, G.C. St. S., A.M., D.C.L., F.R.S., V.P.L.S., F.G.S., P.R. Geogr. S., Hon. M.R.I.A., Director-General of the Geological Survey of Great Britain and Ireland; Trust. Brit. Mus.; Hon. Mem. Acadd. St. Petersburgh, Berlin, Copenhagen; Corr. Mem. Inst. France, &c., 16, Belgrave square, London.

27th Sept., 1854. Owen, Richard, M.D., LL.D., F.R.S., F.L.S., F.G.S., British Museum, London.

P. 7th May, 1851. Pidgeon, Henry Clarke, 10, St. Leonard's terrace, Maida hill West, London.

27th Sept., 1854. Phillips, John, M.A., LL.D., F.R.S., F.G.S., Professor of Geology, and Keeper of the University Museum, Oxford; Hon. Mem. Imp. Acad., Moscow; Société Vaudoise, &c., Oxford.

27th Sept., 1854. Sabine, General Sir Edward, R.A., D.C.L., LL.D., Pres. R.S., F.R.A.S., 13, Ashley place, London, S.W., and Woolwich.

27th Sept., 1854. Sedgwick, Rev. Adam, A.M., F.R.S., F.G.S., F.R.A.S., Hon. M.R.I.A., Woodwardian Professor, Trinity College, Cambridge.

P. 6th Feb., 1851. Smith, Charles Roach, F.S.A., Member of the Roy. Soc. North. Antiq. Copenhagen, Hon. Mem. SS. Antiq., France, Normandy, Scotland, Spain, Newcastle, the Morinie, Abbeville, Picardy, Wiesbaden, Luxemburg, Treves, Touraine, &c., Temple place, Strood, Kent.

6th Feb., 1851. Willis, Rev. Robert, A.M., F.R.S., Jacksonian Professor, Cambridge, and 23, York terrace, Regent's park, London.

P. 27th Sept., 1854. Wright, Thomas, A.M., F.S.A., Hon. M.R.S.L., Member of the Institute of France; of the Roy. Soc. North. Antiqs. Copenhagen; Hon. Mem. of the Soc. of Antiquaries of France; Corresp. Mem. Soc. Antiq. Normandy; of Soc. Antiqs. Scotland, &c., 14, Sydney street, Brompton, London.

Walcott, Rev. Mackenzie E. C., M.A., B.D., M.R.S.L., F.S.A., &c., Precentor and Prebendary of Chichester, 58, Belgrave road, London, S.W.

Presidents since commencement.

1. Right Hon. Francis, 1st Earl of Ellesmere, Lord-Lieut. of Lancashire - 1848.
2. Right Hon. Charles William, 3rd Earl of Sefton, Lord-Lieut. of Lanc. - 1854.
3. General The Hon. Sir Edward Cust, K.C.H., D.C.L. - - - - 1855.
4. Right Hon. William Ewart Gladstone, M.P. - - - - - - 1863.
5. Joseph Mayer, F.S.A., &c. - - - - - - - - - - 1866.
6. Rev. A. Hume, D.C.L., LL.D., &c. - - - - - - - - - 1869.

Secretaries since commencement.

1848. Rev. A. Hume, LL.D., &c., and H. C. Pidgeon, Esq.

1851. Rev. A. Hume, LL.D., &c., and Rev. Thomas Moore, M.A.

1854. Rev. A. Hume, LL.D., &c.

	Assistant Secretaries.
1855. Rev. A. Hume, LL.D., &c.	Thomas G. Wedgwood, Esq.
1856. Rev. A. Hume, LL.D., &c.	W. W. Rundell, Esq.
1857. Rev. A. Hume, LL.D., &c.	J. H. Genn, Esq.
1864. Nicholas Waterhouse, Esq.	J. H. Genn, Esq.
1867. David Buxton, F.R.S.L.	Charles Dyall, Esq.

Treasurers since commencement.

1848. Thomas Avison, F.S.A.

1860. William Burke, Esq.

1867. John G. Jacob, Esq.

Librarians and Curators since commencement.

Librarian.	*Curator.*
1848. Joseph Mayer, F.S.A.	Joseph Mayer, F.S.A.
1851. Rev. Thomas Moore, M.A.	Joseph Mayer, F.S.A.
1859. David Buxton, F.R.S.L.	A. C. Gibson, F.S.A.
1867. Nicholas Waterhouse, Esq.	A. C. Gibson, F.S.A.
1869. Nicholas Waterhouse, Esq.	H. Ecroyd Smith, Esq.

TRANSACTIONS.

ADDRESS
TO THE MEMBERS OF THE HISTORIC SOCIETY OF LANCASHIRE AND CHESHIRE.

By Joseph Mayer, F.S.A., &c., &c., President.

Read 5th November, 1868.

In the past year, gentlemen, when you chose me President of your Society, I had the pleasure of thanking you in this room for an honour which I value very deeply; and this evening I cannot do more than reiterate the acknowledgments then made. I am conscious that I have not been so active, nor so punctual in attendance, as your President should be; but most of you here know well how various are the duties which compel my absence from your meetings. I am thus doubly affected by the proof of confidence you gave me some days ago, because it shows that, for all my shortcomings, the Historic Society understands that my heart is still with it, though in bodily presence I be elsewhere engaged. Were I to set before you now the divers causes which have thrown my proper duties into the hands of others, I feel sure you would sympathize with and pardon me. They were indeed imperative, and I can but beg your leniency to excuse a disrespect which was unavoidable. If there be any here who should feel an interest, and a very deep interest, in the Historic Society, it is its President; not merely for the honour and dignity of the office he holds, but also for the recollection that he was among the first to form the idea of such a society, and among the first to put that idea into a practicable shape. In the body of gentlemen round me to-night, I see

the representatives, I might say heirs, of those personal friends who established this institution,—an institution, be it remembered, almost the earliest of its kind in the North of England. To find myself chosen President of such a body was a very keen pleasure; and your vote at the last meeting, which confirmed me in office for another year, was yet more grateful, for the reason I have alluded to. For such a mark of confidence, gentlemen, I thank you very heartily.

In the two addresses which I read to this society last year, I dwelt most especially upon the antiquarian interests of our own country; ground rather dangerous to tread, unless one be prepared to engage in a score of friendly controversies, which I, a busy citizen, have not leisure to undertake. Nevertheless, the correspondence which the second of those papers, in particular, drew upon me, was very encouraging. Independently of the arguments for or against my views contained therein, which, as a simple seeker after truth, I could weigh with pleasure and profit though they failed to convince, it showed that the old fanaticism, which rejected all things strange and novel, merely as such, was dying out, or had learned to be ashamed of its obtrusion. There were those among my correspondents whose course of reading, or natural bent, led them to dissent from my opinion on this matter or that, but the mass, or rather the entirety, showed a comprehension of the points at issue, and an interest in the theory, which was to me as surprising as it was gratifying. I hope, and indeed feel sure, that this intelligence, this newly-wakened regard for the subjects of our study, is not to be considered solely characteristic of our town or county, but rather as a tendency of the whole kingdom, from which one may expect the very highest benefit to science, to social knowledge, ay, and to religion, in the course of its expansion. Everywhere we see what a strengthening grasp our pursuits are taking on

the national mind. Especially we see it in the eagerness with which the press takes up any complaint of neglect to local monuments. Let but a cross fall in the desert cemetery of Icolmkill, and the *Times* opens its arms to the anonymous avenger, and boldly in its own name denounces the whole Clan Campbell and the great Mac Callum Mhor. If a whisper circulate that the worst of England's kings is about to be disturbed in his mouldering tomb, a thousand eyes are sternly fixed upon the spot; and did the workmen only wink, there are those prepared to publicly reprimand them for the sacrilege. There is a fire at Croydon Church, and the columns of the Thunderer are freely thrown open to architects, amateurs, and defenders of the Whitgift Hospital, all somehow advocating the restoration of its monuments. Jerusalem, I am told, resembles a newly-projected line of railway, owing to the enthusiastic exertions of Lieut. Prideaux and his fellow-labourers; and very shortly, I hope, an equal stir will be created on Mount Sinai.

But it is not only in the exploration of foreign countries, nor in the prosecution of studies that may be called European in interest, that this spirit shows itself. Scarcely is there a Parish, certainly not a Hundred,—to use the old English measure,—which has not found its profit in the new Renaissance. On every side we see persons, well-meaning and enthusiastic, if not always quite judicious, who devote their time and pains and money to the task of rebuilding or restoring some one among the memorials of antiquity which lie to the hand of every one in our ancient fatherland. It is a prospect most cheering to the mature Archæologist, who—if he must from time to time regret to see the signs of haste and ignorance in undertakings that, above all others, should be well studied, carefully overlooked, and most tenderly carried through—must still be alike charmed and astonished to observe the strides his favourite science has taken of late

years, among all classes of Englishmen. He rejoices to feel confident that henceforward they are safe, those grey memorials of other ages, those nodding ruins, those ancient churches, where our forefathers alone found peace among the dire convulsions which environed them without. He sees that every stone and beam that has a story, every mouldering tree to which a legend hangs, will be safe henceforth, and that, not by the careless, and oftentimes injudicious, liberality of some great man, but preserved by the tender sentiment of a nation. And this pleasant security has come to him in latter years, consoling him for many disappointments and regrets.

It seems to me that the archæologist has especial reason to congratulate himself upon the line of study he has embraced, in troublous times such as those in which we are now living. A grave political change has lately transferred the power of this realm to a class hitherto most carefully excluded from authority. A measure of the highest interest to religion is now under discussion, a measure that has roused men's deepest feelings, and is intimately bound up with those abstract principles of government on which European monarchies are based. Simultaneously with these momentous novelties, either as a cause or an effect of them, a hundred social problems have suddenly pressed themselves into notice, and demand instant attention. This is not a political society, nor should your President proclaim his creed, whatever it may be, from this chair. I do not say whether I approve, or whether I dread, those changes which the near future holds before us. But in any case, under any form of conviction, the intelligent and thoughtful archæologist finds comfort. In the grave retirement of his study he has watched and weighed the mutations of humanity, from that earliest struggle of man with man, when the material and the spiritual first found themselves face to face, enemies from the beginning. He has seen the right prevail, and become the wrong in its

success; he has seen crime triumphant, and the cause of humanity flourishing under its shadow, in its despite. He knows, as no other student can know, with what strange weapons the progress of his kind has been protected. Gods rise and fall in his comprehensive survey; nations are lifted up, and swamped beneath the flood of barbarism; arts die without disease, and spring again without miracle. He sees licentious republics crushed, to flourish in a despotism; and despotism nobly broken, to the glory of free manhood. Until at length the conviction grows upon his mind that our forms are nought, our efforts unessential, and our accidents of no effect. There is a vaster law at work than mortal intelligence can grasp, a law which moves without our knowledge or will, a law so deep and majestic that the review of all generations since history began is but to the student as that fragment of a comet's untraceable orbit which the astronomer may measure out but cannot turn to use. There is a faith the archæologist learns, with wonder and delight, in the calm solitude of his study; a faith wider than all dogmas, and higher than all reasoning; faith in the ultimate destinies of his kind. One great man, one great race, sins and passes; another merits, and passes likewise; either the good or the evil seem to have been alike wasted and without result. But from every degradation humanity has mounted higher, from every sleep has wakened to a larger vitality. The foremost axiom of mechanics is as true of the most complex among mechanisms as of the simplest of machines. Man also advances from the complicated to the pure; and every step of his advance our science loves to trace out and meditate. From the elaborate trinities which the priests of Egypt built, to the exquisite idealism of the Greeks, was a step. From this point to the hard and material mythology of ancient Rome was another. And then the world was ready to accept that monotheism which we know. The elaborate governments of the old world,

with their strange subserviencies, and liberties stranger still; their ignorance and their enlightenment; their republics less free than despotisms, and their despotisms more liberal than republics; their confusion of slave and free man; their unity of ecclesiastic with civil life; their abstract rights of the state, their legal rights of the people; their privileges and penalties of a heaven-born aristocracy;—all these complications are so bewildering to our notions, that at this day there are as many theories in explanation of each mystery as there are histories that treat of it. Yet have we in the nineteenth century derived advantage from each one of these past organisations, and still profit by the experience so learned. In this larger view, our science is almost too vast for steady thought, yet one loves to speculate upon those causes,—not indistinct nor too fancifully drawn, though they be almost lost in the mist of ages,—which may yet be producing their effect upon our social order now. Had not the plebs of Rome seceded to the Sacred Hill, should we have been last year discussing the rights of the working class? Had the Gracchi carried through their Agrarian revolution, should we be now face to face with the question of Irish land tenure? And if Rome had held a creed so rounded and uncompromising as do the followers of Zoroaster or Mahomet, would the Irish Church be now a subject of contention throughout our land? These speculations may be novel to some among the younger members here, and useless to prolong, yet I think every scholar would answer them in the negative.

I have said this much to point out how vast, how essential, is the line of study we profess to make our province; a study linked with every interest, every pleasure, every advantage, which, even in this late day, man can enjoy. Consider your science in this comprehensive view, gentlemen, whatever be the special branch of it you take up. Thus treated, Archæology will be found the most perfect system of philosophy that has

yet been meted out. It gives peace and comfort and confidence when trouble overwhelms the land, and it brings with it charity. Whether Mr. Gladstone or Mr. Disraeli prevail, we know, *a fortiori*, that humanity will make progress still; for we have seen through what perils, and how much more deadly than any that now threaten, the unseen, immutable law has steadily pursued its course.

And in regard to this, the most interesting aspect of our science, gentlemen, I should be loth to let slip the opportunity of alluding to that novel museum which our fellow-townsman, Mr. Blackmore, has lately presented to the city of Salisbury. Most here are acquainted with Mr. Blackmore in his professional standing, and many, I hope, are intimate with him as a friend. But it may not be so well known that he is a zealous follower of our pursuits, and that the branch he has especially taken up is that I roughly sketched out a moment since. Feeling more and more interested, as his researches deepened, in those remains which most clearly display man's original rank in the order of creation, and his gradual progress upwards, Mr. Blackmore, some years ago, began to gather evidence from all sides. While travelling in America, he heard that the celebrated museum of Messrs. Squier and Davis was for sale, and, profiting by a strange apathy of public spirit in the United States, he was enabled to secure all the most noteworthy objects which had at that time been discovered in the Western "Mounds." From this nucleus, our fellow-townsman—it gives me pleasure to repeat that description—has been steadily working on, collecting, with unwearied diligence and intelligent liberality, all that enduring testimony of stone and metal which reveals the earlier conditions of our race. All four continents and the Asiatic isles have been laid under contribution for their ancient treasures; and by the side of these are placed such instruments of corresponding simplicity as serve the needs

of savage peoples in our day; so that at the present time, gentlemen, I can assure you from personal knowledge that Mr. Blackmore's museum, illustrating the "age of stone," is not merely the first as most perfect in the world,—alike for its singular wealth and admirable arrangement,—but may even be called the only collection in which it has been hitherto attempted to grasp the whole subject in that detail which the student must require. There is a danger that few collectors in this branch of archæology have avoided, and by their error much undeserved ridicule has been cast at divers times upon their labour. It is — too hasty generalisation. Identical forms of weapon or tool do not prove identical races, nor even a stage of barbarism equally complete. My friend Mr. Thomas Wright, who is an honorary member of this society, was, I think, the first to indicate the unlikelihood of many theories circulated by the Professors of Denmark, and their proselytes among ourselves, at the rise of this new science. And Mr. Blackmore, in the arrangement of his museum, has acted cautiously, not classing celt with celt upon the fact of their common material and similar rudeness or perfection of form, but where the apparent circumstances of their discovery seemed to set them rather among the bronzes, he has not feared to give them room in the place which theory might refuse, but stubborn fact claims for them. In throwing open to the world a collection such as this, Mr. Blackmore has performed an act of national benefit. Nor is his spirit of enquiry yet satisfied; for he is at this moment, I believe, camping on the prairie in pursuit of his researches into the mystery of the "Mounds."

And the mental picture which we may draw of our friend's position to-night,—though I would not attempt to excite your sympathy by dwelling upon its details,—reminds me of a fact that has for some time called my attention; which is—the fast-growing interest and importance of American archæology.

It seems to me part of my duty, as President of a society such as this, to invite the attention of its members to theories that may be forming, or the researches now prosecuted, in any quarter of the world, when they seem to bear upon the larger treatment of our science. And if I be right in this view, America, of all countries, is least to be neglected in our survey. So many and so startling have been the discoveries on that continent in later years, that a movement is actually at work, among the leading antiquaries of North and South alike, which would deny our hemisphere the honour and title of superior antiquity, in favour of their own. The New World, they say, is really the elder of the two, in creation or birth, in conception of life, and in occupation of mankind. While Europe was lost in the blackest night of ignorance and brutality, the Toltec empire flourished in such splendour and contentment as our hemisphere never saw in its brightest days. When Rome was conquering and civilising, the Olmeques and the Quichés cultivated arts, and covered their country with imperishable trophies. While Egypt and Assyria and Greece were struggling to knowledge, the Quinamés erected cyclopean temples and pyramids which endure to this day for a testimony. And beyond all these nations that we know, and times we can identify, in an age so distant that no memory of it dwells now upon the earth, mysterious races lived and laboured and multiplied exceedingly there, in an advanced stage of semi-civilisation. Their works and their fortifications, perhaps their tombs, cover leagues of the Western prairie. A rising town stands easily within *one* of the vast earthworks of Circleville. How dense must that population have been, which could occupy and defend such fortifications! And what a strange condition of human society must have been that in which multitudes were so far enlightened as to combine in these vast undertakings, while content to dwell in huts so poorly fashioned that no vestige of them remains. For there

is not now a trace, so far as I know, of any habitation, and, what is even more strange, scarcely ever has a human bone or mark of interment been observed. But one must admit that such few relics as Mr. Squier has unearthed confirm the national belief in an antiquity almost limitless.

I do not dwell upon this subject, further than to point out how mysterious is the history of this people. The stupendous trophies of their industry stand upon the plain, like the hills or river-beds of other lands. The savage Indian of our day erects his tent in some corner of the huge building, but lays no claim on his ancestors' behalf to the credit of constructing it;* the name or history or fate of the "mound builders" no man can guess.

The same disappointment will be felt by the traveller in exploring the desert of California. In that barren region he finds temples and towers, constructed of hewn stones, and still fit for habitation as when abandoned countless ages since; but there are none to explain their origin. Such as the conquering Spaniards found them, they remain, disclaimed and dreaded now as then by the semi-civilised people who dwell upon the edges of the desert. We may guess that earth-builders and stone-builders moved South or West under pressure of barbarous foes, of famine, of pestilence, or of natural restlessness; but hitherto there has been no evidence available for aught but merest guesses at the earlier stages of American history. The historic period, according to former views,—it may be that a great revolution in this

* The "mound" at Circleville consists of two parts, communicating by a causeway. The circle contains about twenty-five acres, the square leading from it is much larger. Those interested in this subject of the American mounds and their builders will do well to consult Messrs. Squier and Davis's survey of the Mississipi valley, and the Aboriginal Monuments of the former gentleman. It is with some hesitation that I also recommend an extraordinary work, called "*Dee-goo-dah*," by Mr. W. Pigeon. It will be found to contain information of a very startling nature, but the accounts of the mounds, if accurate,—and I do not know that they have been disputed,—are much more complete and copious than any others I have met with.

respect is impending; I shall speak of it presently,—the historic period was formerly fixed about the tenth century, when the Toltec empire was at the zenith of its glory. Commencing the story at that date, we get on smoothly enough for awhile; and even the habitual scoffer, a kind of man of which there are, alas! so many in the world, begins to think there may be "something in it." Suddenly, however, he comes upon a tale of a cock and a bull,—I mean of a devil, a pretty woman, a cup of strong drink, and a monarch bewitched; such a story, in fact, as delighted our innocent minds in the nursery. Should the student's faith survive this startling test, he will find the sober course of history renewed for a few years more, until his author, weary no doubt of dry facts, takes another bold plunge into the spiritual world, and returns to earth with information more marvellous than ever. So the history of Anahuac proceeds, until at length the compiler frankly gives up the attempt to pursue these singular events, and starts afresh at a subsequent date, where, I regret to add, he shortly flounders about as wildly as ever. And the same remark must be made of the Quiché history, and the Maya; as to the story of the Quinamés, there is nothing to be said about it. Nevertheless I am not prepared to disbelieve the entirety of these legends. The story of the Roman kings is as wild, and yet one knows that a great substratum of fact, if not of truth, underlies that fable. In Aztec times the records were kept with a care that might shame Europe, and the historians of that date looked to the extant works of their Toltec predecessors with the same feeling that many of our modern writers have towards Gibbon and Hooker. But of the volumes which were objects of their emulation, how few survive! The Bishop of Quesaltenango, we are told, built up a pile of them as high as his Cathedral and set fire to it. Three days these inestimable treasures burnt! And when a Bishop gives the lead, who but Ritualists

refuse to follow? Every priest, every bigoted haciendero, sought out with curious pains the records in his reach, and utterly destroyed them every one. It was not alone in the middle ages that such senseless vandalism was practised. Up to the beginning of this century, fanatics vied with each other in effacing the memorials of former faith and civilisation. But a few of these books, called codices, were preserved, and found their way at various times into the collections of Europe. It may be also,—I think M. Brasseur de Bourbourg holds out hope of such good fortune,—that a considerable number still remain in the Indians' hands, and in the old libraries of Spain, which will in process of time be given to the public.

It is of these codices that I would say a few words. The character in which they are composed is pictorial, much more so, to my eyes, than the hieroglyphics of Egypt. For ages the art of reading them has been forgotten, or, if still preserved by the Indians,—of which we have no evidence at all,—is most jealously guarded. But for some years the rumour has circulated that M. Brasseur de Bourbourg, an eminent authority,—our only authority in fact, for very much of American history,—possesses the key of these strange characters, or has at least made such progress in deciphering them as gives us reasonable hope for the future. This report he has at length confirmed by the publication of a work,* telling his system, and the circumstances under which he obtained the clue. I have not yet read the book, but if M. Brasseur de Bourbourg has indeed discovered, as I am told, a perfect analysis of the "picture writing," dated within a few years of the Conquest, and now produced under the respectable guarantee of the Royal Librarian at Madrid, we may reasonably hope to obtain information therefrom of most singular interest and value. I cannot tell you upon what principle the

* Quatre letters sur la Mexique. Paris: Maisonneuve. London: Trübner & Co.

pictures are translated, but if M. de Bourbourg be confirmed by this discovery in the view he seems to have taken, following M. Aubin, some years ago, as to their meaning and value, it would appear that the Mexican hieroglyphic was sometimes phonetic and sometimes allegorical, or, as M. Aubin terms it, sometimes formed a rebus.* It will be remembered that the utter uncertainty, and one might almost say inherent improbability, of such a mode of expression, was one of the principal objections to M. Champollion's theory of Egyptian hieroglyphics; and the cause from which has risen such confusion as may be noted in the various translations made according to his system.† I cannot but observe also, that a coincidence "*of the most curious*" will be found, if the antique Egyptian and the ancient Toltec be alike proved to have conceived,—simultaneously and without knowledge of each other,—a mode of recording events, equally ingenious and equally cumbrous, though in characters utterly unlike. But if M. Brasseur de Bourbourg has indeed discovered a new key, or developed a new theory, I can only recommend any person here who feels an interest in ancient history to study his recent work; promising them, from my knowledge of this eminent archæologist, that whether they be converted or not to the theory of man's higher antiquity on the American continent, at least they will learn a vast quantity of new facts, will conceive a multitude of new possibilities, and will thoroughly enjoy a very charming style, which is not to be lightly esteemed because it seems lightly written.

One word more upon the subject of American antiquities. There is a work now in the press,—I speak merely from hear-

* Histoire des Nations Civilisées de l'Amerique Central. Preface, p. lxi, sec. I 2.

† I do not know where the objections to M. Champollion's system can be found so simply stated as in vol. II, chap. X, of a work called "Egyptian Antiquities," belonging to the admirable "Library of Entertaining Knowledge," dated 1836.

say, and, as it were, to warn those members of the society who feel curious on the subject,—which, if one may believe report, is destined to confer additional fame upon an archæologist of great eminence; I mean Mr. George Squier. Having passed the years of youth and credulity, I may be held excused if marvellous stories do not any longer produce very great effect upon my mind; but there seems every reason to believe that the discoveries of Mr. Squier in Peru and the adjoining regions are of the most interesting nature. We hear,—always by report, let it be remembered,—of investigations at Tiahuanaco, the Stonehenge of America, which reveal singular facts, and give rise to theories not a little startling. It is not fitting to dwell upon this subject, but we must all look forward with vast interest to the forthcoming volumes of Mr. Squier.

Were it only for the good example of industry they set us, it were worth while, from time to time, to throw a glance upon the work of American Archæologists. Nevertheless I think we cannot justly be accused of idleness on our own side. In this rapid review which I am taking of the current events relating to our science, I find one which we must approach with very mingled feelings. Since I last addressed you from this chair, gentlemen, the reasonable pride which we of Liverpool may have felt, while examining those unique specimens of Anglo-Saxon art in our museum, has sustained a heavy blow. The "Fausset Collection" was known and famous throughout Europe; students visited our town solely to make acquaintance with its treasures. Well, gentlemen, I fear—I will not speak decisively as yet, but I fear—some part of that glory has departed from us. Not that a thief has robbed us while we slept; the brooches and the fibulæ shine as brightly as ever in their cases. They are as beautiful as ever, but I fear they are no longer unique. The "Fausset" is perhaps not now the first among Anglo-Saxon collections,

and is certainly not the only one of highest class. In the neighbourhood where our specimens were unearthed, at Faversham in Kent, recent investigations have brought to light most noteworthy treasures in the same style of art. One must wait until the various objects can be compared, side by side with one another, before definitely pronouncing the superiority of either; but I would counsel enthusiastic archæologists of Liverpool to prepare themselves for possible defeat. I may add that the excavations at Faversham are still proceeding with success.

Nor in other subjects connected with our early history is there any sign of backwardness. The noble volume of Dr. Bruce, published last year, has gathered into one view all the information we possess upon that interesting subject, the Roman Wall. Mr. Roach Smith is prosecuting his labours in the wide field of Ancient London. Another gentleman has expended vast learning and ingenuity in an attempt to prove that the Anglo-Saxon conquest was not nearly so complete as we are used to think; and the effort, though it fail to convince our reason, one must needs welcome gladly, as containing the fruits of extraordinary research, and thus of great value indirectly.

A similar acknowledgment must be paid to Mr. Piazzi Smith, who pursues with unwearied diligence his curious theory of a "Pyramidal revelation," if I may be allowed so to express his idea; and pursues it with such success, apparently, as to have secured no inconsiderable body of proselytes. These efforts are by no means wasted, because they fail in their original purpose.

In other countries have been made discoveries of great importance. If it be true that the tomb of Mausolus, king of Caria, is now identified on the promontory of Halicarnassus, modern Boudroume, we may expect wonderful results from the excavations on its site. You will remember the

story of that great work, undertaken by a mourning queen in memory of her husband. It was accounted among the seven wonders of the ancient world. In the rather confused description which Pliny gives, (*Hist. Nat.* L. xxxvi, cap. iv) he remarks, "that the circumference of the building was "altogether four hundred and forty feet; the breadth from "north to south sixty-three; the two fronts not quite so "wide." It will thus appear probable that the word "cir- "cumference" is here used to describe the colonnade which surrounded the building. The height of the pteron, as Pliny calls this outer colonnade—rather oddly, I think—was thirty-seven feet and a half. It consisted of thirty-six pillars. Above the pteron rose a pyramid, of twenty-four steps, equal in height to the lower building. On the crown of this pyramid stood a four-horse chariot by Pythis. "This "addition," says Pliny, "makes the height of the entire "building one hundred and forty feet"; which is scarcely compatible with his own figures. The eastern side of this great monument was sculptured by Scopas, the north by Bryaxis, the south by Timotheus, and the west by Leochares. It will thus be seen that very singular treasures might probably be recovered, were the search zealously undertaken.

On the whole, gentlemen, in whichever way I turn my eyes, I can find ground for nought but congratulation to ourselves. There are indeed many schemes I should like to see carried successfully into practice, for the greater facility of our pursuits and the advantage of historical truth; but so encouraging is the progress one may note almost day by day, that we should be content to wait, in confidence that all will at length perceive the uses of Archæology, and will seriously exert themselves to promote its interests. One suggestion only will I venture to put forth.

Every county in England makes its boast of a few great families, whose names and varying fortune have been more or

less intimately bound up with our national history. The boroughs which one of their members represents to-day, was chartered by his forefather; the lands which surround their dwelling were registered in detail in antique rolls; the more notable of their ancestors often rigorously set down the minutest facts of his daily life in a diary or a careful memoir. These priceless muniments still exist, or a great number of them. But where in nine hundred and ninety-nine cases are they stored? With singular care the documents are preserved which relate to the mere events of to-day, the profit of the family; but for those dim parchments and ancient volumes, which are the title-deeds of its rank in honour, the record of its worth or its unfitness for that high station which England gave, and has often snatched away, what place is devoted for them? Too often a distant and dismal chamber, where rats gnaw, rain beats in, mice and worms burrow and build. I am not speaking without book, gentlemen! and it would even be well if the culpable carelessness of owners stopped at this point; for in too many instances the muniment room is abandoned without thought to the tender mercies of children and housemaids. Every day, manuscripts of the deepest importance to the nation are torn up for nursery toys, are cut to pieces for silk-winders, are absolutely burnt in grates and garden furnaces. One feels a positive thrill of indignation in recalling some stories of this sort which rest upon authority incontrovertible. Such irreparable waste of the national property, for national it is, cannot be allowed longer to continue. I should suggest that the heads of the South Kensington Museum, or other officers of departments where there is room to spare, should issue an invitation to all persons having such documents in their possession, should by that means collect these treasures together, and there and then examine and report upon them. Some such course *must* be followed. It would be preferable that the owners should

solicit the attendance of some skilful person from the British Museum to examine their muniments,—and such requests are rarely refused, I may add,—but even if this be done, as in a very recent instance, the confusion is often found to be so utter and complete, that half a lifetime might almost be spent in restoring order, and in properly examining the deeds. I take it this is one of the foremost questions now demanding the attention of archæologists. It must be solved. One-half the controversies which occupy the time and study of leading men in our science might, I feel sure, be very speedily set at rest if all the private collections of England were thrown open; and it is a mistake to conclude, because antiquarians differ, and even make some noise in their differences, that they *love* disputes. Antiquarians like a quiet life, as do other men, but they are ardent for truth, and truth, in these matters, lies not at the bottom of a well, but in the dusty recesses of a muniment room. That she may be speedily rescued from that degrading position must be the earnest hope of every member of this Society.

NOTICE OF ROMAN-BRITISH CULINARY VESSELS, DISCOVERED IN NORTH WALES.

By Henry Ecroyd Smith.

READ 3RD DECEMBER, 1868.

REMAINS dating from the Roman occupation of this country very sparsely occur in the northern portion of the Principality. The stations situated upon or near the sea-board, have within record yielded few mementoes of the Latin conquerors, or the arts they not merely introduced, but thoroughly established, in the important, flourishing, and we may add favoured, province of Britain; consequently the objects now chronicled possess additional significance and interest. Even throughout Great Britain, as likewise in France, the *adjuncts of the kitchen*, in houses of the better class, are, with little exception very rare,* having proved far too useful to be relinquished whilst reparable in any possible manner, and only as a last resort melted down for other purposes. The exceptions are confined to coarse articles—the common *mortaria* or mortars of baked clay, in which meats, as also grain, fruit, and other vegetable produce were pounded for *made* dishes, to which the Romans were partial—and the still more cumbrous *querns*, formed of stone, or of lava from Andernach on the Rhine. *Iron fire-dogs*—not for use in the warming of apartments, as in mediæval times, but for sustaining *bars*, from which

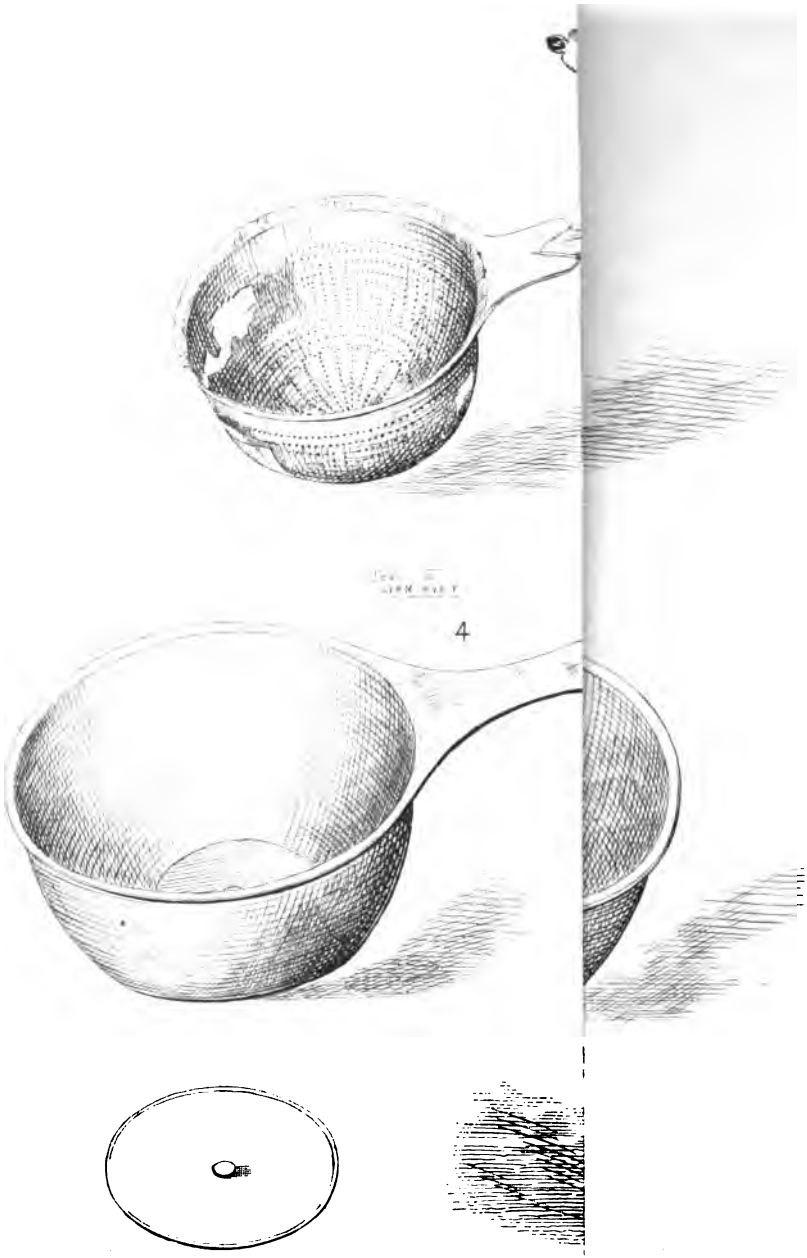
* *The Celt, the Roman, and the Saxon*, p. 336.—Montfaucon states, "We have "very few remains of the Kitchen utensils of the ancients, having no marbles to "represent more than part of them. They were, however, very numerous.—Vol. III, book iii, p. 78.

depended *caldrons* and other large vessels over fires—have been found at Mount Bures near Colchester surmounted by moulded heads of oxen, with bright knob-ended horns;* and at Shefford near Stamford Bury, Bedfordshire, in 1832, other examples bearing stag's heads, were discovered in a funeral vault, paved with Roman tiles, along with an iron *tripod* and a number of bronze objects of smaller size.† The tripods of bronze or iron, holding *pot-hooks* and *chains* to sustain *kettles* or boilers, complement the very meagre list of identified culinary utensils, hitherto recorded as occurring in Britain, save a few of minor class as *saucepans, ladles,* and *colanders* or strainers, which were all used in connection with the *cooking by stove.* Though our present examples belong to the last named category, they yet present some especially noteworthy features.

In or about the year 1862, whilst engaged in ploughing a somewhat elevated but yet secluded field bordering on the main feeder of the Aber, among the hills, nearly a mile and a half directly south from Abergele in Denbighshire, an old farmer named Hughes encountered a quantity of "rusty pots and pans," the bulk of which he very stupidly sold for their metal value. The only person of his household who had sufficient sense to desire the retention of a few pieces, was a servant girl, Mary Owens by name, to whom we are indebted for preserving from the melting pot or furnace, the sole representatives of what may safely be designated as the most valuable discovery of Roman culinary bronze vessels ever effected in this country.‡ So numerous were they, it is stated a wheelbarrow might have been filled with them; consequently half-a-hundred pieces is a very moderate estimate,

* *Collectanea Antiqua*, II, p. 25, and plate. † *Ibid.*, p. 29, pl. xi.

‡ They were found in sets or "nests," *i.e.* packed one within another according to shape, and the deposit, from the description of eye-witnesses, and taken in conjunction with the superior character of the pieces, evidences a burial dating from the early Roman occupation of the Principality.



4

ROMAN-BRITISH CULINARY & DIED.

J. LAWSON PRINTER JOHN ST LPOOL

of which only six examples were *scoured with brick-dust*, to remove the rust, and retained. One of even this small batch has since unfortunately disappeared; the remaining five utensils consisting of—

1. A *cup*, $1\frac{1}{8}$ inches in height by 3 inches in diameter; capacity $2\frac{1}{2}$ ounces.

2. A *platter*, $\frac{11}{16}$ of an inch high, and $6\frac{1}{4}$ inches diameter across the rim, $5\frac{1}{4}$ inches at the base; capacity 9 to 10 ounces.

3. A *strainer-ladle* or colander, 12 inches long, the bowl $3\frac{3}{4}$ inches diameter, 2 inches deep.

4. A *saucepan*, 2 inches high by $4\frac{1}{2}$ inches wide, exclusive of the handle, which is 4 inches long; capacity $10\frac{3}{4}$ to 11 ounces.

5. A second *saucepan* of similar size, but differing in ornament; capacity 11 ounces.

With the exception of No. 3, which is owned by Mr. Jones of Abergele, these vessels are now in the possession of Mrs. E. M. Humphreys of the Cambrian Arms, Pensarn, who will have pleasure in shewing them to interested visitors. The above enumeration is simply for convenient reference, and we now proceed to a more particular description.

The Cup is of an elegant and classical bowl-like form, with small projecting rim moulded within. It has been cast in bronze, and the solid base displays below, a raised button with a still higher central knob; its upper (inner) surface being convex, with a decided apex. This little *scyphus*, which much resembles many examples in fine old oriental porcelain, both in shape and in the absence of any handle, has been plated with tin over the whole inner surface, so artistically that one of our first local silversmiths asseverated the vessel could not possibly be antique, being plated in *the best modern workmanship;* whilst the finish is so fine and bright as strongly to suggest the use of silver for burnishing. Of a truth, there is little really new under the sun! No

similar little drinking vessel would appear to have been described or in other way recorded as occurring in this country.

The Platter, Waiter, or Salver, for any of these designations would be applicable, is apparently a specimen of the Roman *scutella* or *patera*, of which latter class there certainly was a flat variety, as distinguished from the more frequent shallow-bowl or saucer shape, of which a nice example was exhumed at the Roman station of Chesterford, in Essex, being illustrated and described by the Right Hon. R. C. Neville (subsequently Lord Braybrooke).* It bears the device of a serpent, upon the horizontal handle, which is looped at the extremity for suspension when not in use, and possessed a circular projection below the centre of the bowl, as a "rest." This vessel has been gilt, and is presumed to have been intended for sacrificial purposes. Waiters or stands have certainly been found at Herculaneum. Pennant remarks upon a confusion of the terms *patera* and *apophoreta*, the latter being *round, flat*, and without a cavity,† thus completely describing the Abergele utensil. Our platter is circular, and in general character resembles the cup, but its rim possesses three narrow line mouldings in place of the single broader one of the smaller vessel. Here, the broad and flat bottom constitutes the base, concave inside, with the bare central apex, visible through the plating; the outside being sufficiently concave to enable its central button to be level with the outer rim, where a band of slight lathe-grooves appears in the *tin-plating* which completely envelopes the platter, inside and out, and looks, with little exception, fresh as from the hands of the artizan.

The Colander or Strainer is formed of bronze, and remains

* *Sepulchra Exposita*, p. 74, and plate.

† *Whiteford*, p. 88; *Fosbrooke's Encyclopedia*, I, 343.

nearly perfect, though thin and unplated. It belongs rather to the class termed *Trulla* than *Cola*, the latter being of greater size, and chiefly used for cooling wine, which was poured over ice (held in the *colum*) into a large bowl beneath. The smaller variety, like our example, combined the uses of both ladle* and strainer, more especially when the bowl was deep, as also in a specimen found containing Roman coins at Chesterford, in December, 1847,† the perforation being executed in pattern, but by no means so elegantly as in this, which bears a floral radiation of pierced work in the centre or base, surmounted by a broad border in a variety of the beautiful Greek fret, which, deservedly popular in decoration anciently as now, was frequently reproduced on vases by painting, as also in Mosaic work, stucco, and masonry. It is said that at least half-a-dozen other bronze Colanders were found with this, probably differing in pattern, but one example at Pompeii *fitted into its bronze pan*, is engraved by Archdeacon Trollope, apparently of identical design; in this case, however, the bowl is of larger size, and is probably a *cola*. Another Romano-British example, similar to the Chesterford one in size, metal, and design, was found at Whitfield, Northumberland, together with three kettles or boilers, all of which are now in the Museum of Antiquities, Newcastle-upon-Tyne. A second, Mr. Roach Smith informs me, occurred in Lothbury, London, some years ago, but was lost ere the fact was reported to him; a fourth, with fragments of two others, are enumerated by the Hon. Charles Townley among the fine bronze Roman antiquities discovered at Ribchester, in the last century, and to which further reference will be made.‡ Dr. Kendrick of Warrington adds, that a

* A *Silver Ladle* is recorded to have been found, with Roman coins, within the walls of Richmond Castle in Yorkshire.—*Gough's Camden*, II, p. 91.

† *Sepulchra Exposita*, p. 95, and plate.

‡ *Vetusta Monumenta*, vol. iv.

Colander of this class, described but not figured in *Baines' Lancashire,* and found in Risley Moss in this county, is now in the possession of John Ireland Blackburne, Esq., of Hale Hall.*

The Sauce or Stew Pan—forms like this bearing the name of *skillets* in many parts of the country—No. 4 of our list (and plate) belongs to a class of vessels, *patellæ,* in constant use in all houses of the better class. It consists of a deep bowl-shaped receptacle, recurved at the rim and furnished with a horizontal and flat handle, broadening outwards—the extremity being semicircular—enclosing centrally a pierced or perforated trefoil, the lower lobe of which is somewhat narrower and more elongated than the others, and from its point an incised line or groove, half an inch long, tapers off. This peculiar orifice is the more carefully described through an impression it has induced in many minds that it implied the *sacrificial* character of the vessel, an idea more specious than sound. Its form is certainly not calculated for suspension by any hook except a wire one, but as this class of vessels would seem to have been regularly kept in sets and fitting inside one another, even so small an opening would prove amply sufficient for suspending all together by a wire-ring or cord. The sacred character of the trefoil is well known, but the healing virtues of the pansy (the real form of the perforation) were greatly valued in early times. A late writer remarks, "It is well known with what affectionate regard that simple "flower, the pansy, is held by cottagers and others throughout "the country; they do not know why, but there is a feeling "in regard to it that cannot be attributed to the beauty of "the flower, and it has no perfume. The pansy (*viola tricolor*) "was an emblem of the Trinity, and was prescribed for, and "*considered good in, almost all complaints.* The name is

* Montfaucon figures a fine specimen, perforated in a very elaborated pattern. Vol. III, Book iii, plate 20.

"derived from and is the same as the Welsh word 'penser,' "*to think* of God in the hour of sickness must do good, for "viewing His mercy aright must produce *heartsease*, another "and the common name for this plant."* Consequently the symbol of the revered plant might be expected to exercise a wholesome influence upon everything cooked in this receptacle, a very unnecessary precaution in regard to sacrificial libations. On the right of the upper surface of this handle, obscured by rust and much corroded, I detected the subjoined letters, which no doubt formed part of the inscription of the maker's name, the latter line evidently being *Luaminus F(ecit)*—

"CA V
LVAM . NVS . F."

These letters are *incised*, but the names upon metal vessels are usually stamped. The bowl is quite plain, with the exception of the base which is slightly concave, and has an outer line moulding and a central button, but the rim of the latter is not sufficiently produced to the level of the former to constitute part of the "rest." The inner surface was originally tinned over, but the plating has mostly been eroded.

The Skillet, No. 5, is of the same general form as the last described, and though of similar capacity it fits into No. 4 up to the rim; it differs, however, in the handle and base mouldings. The handle bears curved line mouldings along the margins of the contracted portion, and concentric ones at the semicircular extremity, the centre of the inner one being perforated for easy suspension of the vessel when not in use. The base has an outer rim, two concentric and concave

* *Evidences of the Antiquity and Universality of a Belief in the Doctrine of the Holy Trinity.*—By a Layman, London, Hall & Co., 1863. It is somewhat remarkable that the only example engraved by Montfaucon possesses a similarly perforated handle.

mouldings, with a central button. This button and the small outer rim of the inner band, form part of the "rest," having a common level. Inside, the bottom is convex, its centre also possessing concentric mouldings, and the intermediate hollows still display traces of the original tin-plating which, as in the former case, frequent scouring in process of time has all but completely removed.

These two vessels—which have been used for cooking upon the stove small stews, soups and sauces, (which were poured from them into the simpulæ or ladles proper, for conveyance to the table by attendants)—are, like the platter of bronze, cast in very substantial metal and finished in a superior manner upon the lathe; with the exception of a small hole in No. 5, they are in excellent condition, and if *re*-tinned, would prove almost as serviceable as ever. They are most worn, as might be expected, on the *near side*, as held properly in the right hand for use.

The few examples of similar vessels in this country have mostly been found in pairs.* Two—one *found* lying within the other, among a large number of bronze objects and the iron *fire-dogs* above mentioned—are deeper in the bowl than our Welsh saucepans; a still larger vessel of bronze was found near. In the *Catalogue* of Antiquities forming the temporary museum in connection with the meeting of the Archæological Institute at York, in July, 1846,† a couple are thus described, "Two *patellæ* or skillets, *the inner side* "*tinned*, supposed to have been culinary vessels; one fits "into the other, but not closely; they have flat handles, "perforated at the extremity for suspension. The bottom is

* The Mayer Collection only contains one bronze stewpan, which is probably a Continental specimen; its base is moulded similarly to those mentioned in the text, but the sides are so thin and oxidised it is difficult to recognise any trace of plating.

† *Memoirs illustrative of the History and Antiquities of the County and City of York*, 1848, p. 10.

"of considerable thickness, and ornamented with deeply cut "concentric hollows and raised mouldings, formed by the "lathe. A hole on the side of one of them has been mended "with lead or some soft white metal. Dimensions—diameter "of bowl (larger specimen) 5½ inches, (smaller) 4⅛ inches; "length, including handle, 10¼ inches and 8⅛ inches, depth "of both about 2⅛ inches. On the handle of the smaller "patella is an impressed pattern, composed of a *thyrsus*, "vine-leaves and tendrils. Found in 1841 on a farm called "Round Hill, in one of the upper gills or valleys of the "parish of Masham, North Riding, called Arna Gill. They "lay in a small pit, covered by a large flat stone, and nothing "was found in them. From the Swinton Park Museum."

Unfortunately these have since been purloined; the smaller of the two must have closely resembled our No. 4. A pair of very similar pans are stated to have been found near Dumfries, and to be figured in the *Archæologia*;* likewise an example in *silver*, with a vase, and four handles of similar vessels were found, in 1747, near Capheaton, Northumberland, adjacent to a Roman road,† which are now preserved in the National Collection, as are two others found at Ribchester, with some remarkable objects in bronze, to be noticed shortly. On the river Witham, near Lincoln, a small pan was dredged up along with a number of antique weapons in bronze and iron, which is apparently identical in shape, as it was in size, with our No. 4. It is thus described, "From its form and "the grain of its fracture and its being one entire piece, it "appears to have been made of cast metal. It is considered "to be a piece of Roman workmanship. It is neatly and "curiously grooved at the bottom, to admit the fire to pene-"trate to the contents more easily. On the handle is im-"pressed, seemingly with a stamp, 'C. ARAT,' which letters

* Vol. xxxiii, pl. 25, p. 436. † Vol. xv, pl. 23.

"may possibly signify—*Caius Aratus*, as the latter part "of the stamp seems not to have made an impression. It "appeared to have been *tinned*, but almost all the coating "had been worn off. *As it was said that it had been used "by some boatmen for some time after it had been found, it "might have been tinned after it got into their possession.* "The art of tinning copper, however, was understood and "practised by the Romans,* though it is commonly supposed "to be a modern invention, so that it is not very improbable "that this utensil was originally covered with tin by that "people."

A fine bronze vessel somewhat analogous in contour, and engraved in the *Archæologia*,† might seem at first sight to belong to our category, but it has evidently been constructed for sacrificial purposes. Its handle is most elaborately ornamented with dolphins, in high relief, and with vine and ivy wreaths, executed in nigellum and pure copper, besides other decorations, and the name of the artificer, "BODUOGENUS F," upon the handle. This beautiful vessel was found at Prickwillow, in the Isle of Ely, in April, 1838, and belongs to the Bateman Collection. From the peculiar ornamentation it would seem to pertain to the class termed *patera hederata*.

The above-mentioned vessels are all we have been able to find recorded, in any way resembling the present ones, and the metallurgy of these is the next point to be considered. Here, we are fortunate in possessing a record of carefully elaborated experiments on the *metal* of certain antique objects, which, so far as can be judged, was perfectly analogous in character to that of the bronze vessels before you. These experiments were evidently made *con amore;*

* "Stannum illitum æneis vasis, saporem gratiorem facit et compescit æruginis "virus."—*Pliny*, Lib. 34, cap. 17.—This may be freely rendered, "Plated Tin "upon Bronze Vases makes the flavour more agreeable, and neutralizes the "bitterness of the rust."

† Vol. xxviii, p. 436.—See also *Bateman's Catalogue*, p. 132.

no trouble has been spared, and they were not confined to a chemical analysis of the ancient metals themselves, but extended to synthetical manipulations of alloys, to produce similarity; or, varied for testing comparative utility and durability, in connection with the several purposes to which the various utensils had been applied.

In the years 1787-8, the river Witham, between Kirksted and Lincoln, and contiguous to the Roman Foss-road (*Via Fossata*), became the scene of numerous discoveries of antiquities in metal. Near the site of Bardney Abbey a large quantity of armour was dredged out, including a fine sword, inscribed "BENVENUTUS + ME + FECIT." In another portion of the stream bronze objects, usually held to be of pre-Roman character, were obtained, along with others of undeniable Roman origin. Many of these were added to the collection of Sir Joseph Banks (incorporated in the British Museum), who communicated them to the Philosophical Society,—one member, at least, being so interested in their composition as to spend no inconsiderable time upon experiments connected with the investigation. The result is a disquisition, printed in the *Transactions* of the Society,* entituled "Observations on some Ancient Metallic Arms and "Utensils, with experiments to determine their Composition," by George Pearson, M.D., F.R.S. The analysis appears to have been conducted with the greatest care and in a thoroughly scientific manner, hardly to be excelled at the present time. It is impossible to enter upon all the details which are described *in extenso*, but the facts and conclusions educed and the more important observations thereupon are here reproduced, as the best exposition of this portion of our subject. The objects, which are all of bronze, comprise—

1. A Roman Military *Lituus* (a musical wind instrument,

* Orig. Ed. 1796, Tab. xii–xv, p. 450; Abridged Ed. Vol. xviii, 1796–1800, pl. I, p. 38, *et seq.*

and the only example known to have been found in this country*), of hammered metal $\frac{1}{10}$-inch thick, soldered at the joints with tin, it being readily melted by the application of a red hot iron.

2. A *Spear-head*, of large size, cast hollow to receive a wooden shaft.

3. A *Saucepan* (Fig. 3). This we have already described at length.

4. A *Scabbard*—with a sword of iron rusted within—supposed to be either Danish or Saxon, being found with other armour near the site of Bardney Abbey, destroyed by the Danes in the year 870.† The scabbard is of hammered metal, $\frac{1}{10}$-inch thick, is well designed, and of good workmanship.

The above were all found in the River Witham.

5. A *Celt*, found on the peninsula of Ballrichen, near a Druidical grove; it weighs $1\frac{1}{4}$lbs.

6. A second *Celt*, found in Cumberland, weight $\frac{3}{4}$lb.

7. A third *Celt*, of smaller size, weight 5 ounces.

The analysis shewed these objects to consist of *metals only*, these being *copper* and *tin*, principally the former; the latter being apparent from a white deposit (in the *saucepan* amounting to $21\frac{1}{2}$ per cent.) afforded upon dissolution in nitric acid; as also by synthetical experiment. The actual proportion of tin proved to be, in the Lituus and Celts, Nos. 6 and 7, a little more than 12 per cent., or 1 to $7\frac{1}{2}$ parts of copper; the Spear-head, 14 per cent.; the Saucepan, a little above 14 per cent.; the Scabbard, a trifle above 10 per cent.; and the largest Celt a little over 9 per cent. All proved to be "malleable and uniform in their texture, which properties

* So rare is this class of objects, that Mr. Roach Smith alludes to a trumpet (*tuba*) he met with in a continental museum, as probably the only example on this side the Alps!

† *Tanner's Not. Monast.*, p. 248.

" metals do not possess when they are mixed by fusion with " extraneous substances hitherto discovered by analysis, " except *carbon* in several metals, and siderite in iron only."

The principal uses of alloy of copper by tin, are—to render copper less oxydable by water or atmospheric air; to give hardness; to render it sonorous and more fusible; to produce a closer texture, and whiteness for reflecting light; and to render it less tough and clingy, or " claggy " as moulders term it. " It is worthy of remark, that these alloys of copper " with tin, are evidently different in their colour and grain " from such alloys with the addition of even $\frac{1}{20}$ of their " weight of *zinc*, and also from copper alloyed by $\frac{1}{20}$ of *its* " weight of zinc.

" The *grain*, also of the fractures of the spear-head and " *saucepan* before melting, is much coarser than that of the " ancient metals which contain a smaller proportion of tin, " but it appears from the synthetic experiments that the grain " becomes finer as the proportion of tin is increased.

" Copper, alloyed with a larger proportion of tin than is " generally contained in *celt-metal*, *i.e.*, with $\frac{1}{4}$ or $\frac{1}{3}$ of its " weight of tin, is fitter for cutting instruments, and piercing, " boring, and drilling tools, than celt-metal, because it is " harder, takes a finer edge, and yet is sufficiently strong on " most occasions; nor do we possess at this day any metal " that I know, which is so fit for knives, swords, daggers, " spears, drills, &c., as this alloy, *except iron and steel*. The " spear-head contains tin in the very proportion here men- " tioned, and if the metals had been pure, it would perhaps " not have been possible to have made this instrument of any " other metals, which were so proper, and at so small an " expense. The *saucepan*, also was made of alloy of copper " by tin in the proportions last mentioned, but as this " instrument is sufficiently hard with less, or without any, " tin, there seems to be no use from the addition of it. We

" may conjecture, indeed, that as the *saucepan* was made of " cast metal, the tin was used for the purpose of rendering " the copper more fusible, and thus also for more easily " *casting* forms of it. Perhaps also the tin was added to " render the copper less readily oxydable, and for the colour " of this composition.

" There is not the least reason to suppose that the ancients " added *iron* or *steel* to increase the hardness or strength of " the alloy of copper by tin; nor does it appear from the " experiments with this mixture that any advantage is to be " expected from this addition, at least not for cutting instru- " ments.

" Mr. Dizè made several different experiments on eight " different sorts of coin, Greek, Roman, and Gallic. It " appears from these experiments that those contained from " $\frac{1}{4}$ of a grain, to 24$\frac{1}{2}$ grains of *tin* in 100 grains of each of " the old metals, and it appears that these coins contained no " other metal but copper and tin.

" From the preceding experiments and observations we " learn that tin was infinitely more valuable to the ancients " than it is to the moderns; without this metal it is not easy " to conceive how they could have carried on the practice, " and invented the greater part, of the useful arts. Tin was " even of more importance to the ancients than steel or iron " to the moderns, because alloys of copper by tin, would " afford better substitutes for steel and iron than any which " the ancients in all probability could procure. We see also " the importance of Britain in times more remote, probably, " than those of which we have any record or tradition, being " probably the only country that furnished the metal so " necessary to the progress of civilization. In the barbarous " state of its inhabitants this island was known to the " civilized nations of Europe, Asia, and Africa, and de- " nominated in two of the most ancient languages, viz., the

" Phœnician and the Greek, by terms which denote *the land* " *of tin;* for such, according to Bochart, is the import of " *Britain*, a corruption of *Barat-Anac* or *Bratanac;* and " there is no doubt of the meaning of the Greek word " *Cassiterides.*"*

Tin-plating, such as appears upon most of our Abergele vessels, claims more attention than would seem ever to have been paid to it. The coating of sacrificial implements and personal ornaments with the precious metals has repeatedly been commented upon, but mostly in reference to minor objects of the latter class, as fibulæ, a specimen of which was found on the sea-beach of Cheshire in the course of last year. Among the culinary vessels we have enumerated, a few are distinctly stated to be lined with tin, and others have been suspected to retain a trace of the application, yet no English antiquary has called attention to this interesting art. We have seen that it was practised by the Romans,† and numerous examples might reasonably be expected to abound, but such is not the case; and even at Pompeii and Herculaneum, Mr. Trollope‡ does not appear to have remarked such plating in the numerous culinary and other vessels he so carefully illustrates and describes; whilst Fosbroke, evidently quoting some other writer (probably from the Sister isle) says,

* *Britannia.*—" Notwithstanding the research of Camden and those who pre- " ceded him, it may be doubted whether the origin and significance of this name " have been ascertained. I am not aware that any more recent attempts have been " made; so, perhaps, a charge of presumption will not lie, if for *Brit*, speckled, " parti-coloured, and *tania* region or country, it is suggested that the correct " derivation is *Brith*, bringing forth; *stain* or *stan*, tin; and *ia*, country or island; " the combination Britannia, signifying the tin-producing country or island, it " being observed that an aspirate before the letter *s* renders it quiescent, and is " apt itself to be lost. Another similar root is *Bruth*, pure, unalloyed; and this, " considering the noted purity of the metal found in these islands, would be a " very natural variation. . . . . In the words *Insulæ Britanniæ*, we have a " synonym for the Greek *Kassiterides.*"—'A Dicky Sam,' in *The Athenæum*, 21st November, 1868.

† Fosbroke asserts that *coating iron with tin*, for making utensils, is ancient, but gives no authority or examples.

‡ *Illustrations of the Remains of Roman Art*, by the Ven. Archdeacon Trollope, M.A.

"Dripping-pans are found at Herculaneum, *tinned with fine "silver!*" Coming down to the great Roman *municipia* of Britain, we search in vain among the records of discoveries at Isurium, Eboracum, and Londinium, the successive capitals of the province, for any description of such manipulation, whilst the antiquaries or historians of Lindum, Ratæ, Deva, Uriconium, Corinium, Aqua Solis, Portus Lemanis, Ragulbium, and other important Roman towns and *Castra*, apparently have no examples to shew. With the exception of Rigodunum* (Ribchester), it seems to have been reserved for isolated localities on different sides of the island to produce good specimens of a very important art in connection with bronze receptacles. The valuable objects of Roman art in bronze, discovered at Ribchester, are, happily, described by the then owner, the Hon. Charles Townley, F.R.S., in a communication to the Society of Antiquaries of London, which was subsequently printed in the *Vetusta Monumenta*, with superior illustrations.† They were found near the bank of the Ribble, preserved in red sand, and comprise a fine *processional helmet*, with mask of Minerva, and covered with embossed figures in action; a *patera*, with fragments of two others; portions of a *vase* with silvery-looking polish inside, and doubtlessly tinned; a *bust* of Minerva; four circular *plates* from a military standard, with remains of two *quadruple buckles*; a *colander*, pierced in elaborate design, with portions of two others; part of a *candelabrum*, a circular *bason*, and four *round plates* resembling antique mirrors in form, but not possessing half their thickness of metal.

By a careful analysis, kindly undertaken by Mr. Alexander Norman Tate, the metal used for lining these saucepans and cup, and completely coating over the platter, is veritable *tin*,

* This name is strongly and most reasonably suspected to have been *Ribodunum*.

† Vol. V, pl. i to iv.

and little else. A slight residuum was evolved, evidencing the presence of a minute quantity of some softer substance, probably lead, and this metal or an alloy of it with tin (pewter), no doubt was employed in soldering the plate around the side, to that upon the base in each vessel, which appears to have been first separately affixed to the bronze. The whole has been admirably finished, like the cast bronze itself, upon the *lathe*, as the circular indentations abundantly exemplify.

A difference of opinion will no doubt exist among antiquaries, as to whether the fabrication of these tinned patellæ, apparently the "*incoctilea*" of the Romans, is to be attributed to Italy, Gaul, or Britain. Well, and in fact artistically, manipulated as they are, there seems good reason to conclude these to be Roman-British, or the produce of British artificers under Roman superintendence (possibly copies of continental examples), and the liberal use of the metal tin,—rare and invaluable on the continent,—confirms this view. The Latin and Greek artizans commonly impressed their names, as we have seen, upon the better class of wares; and the Bateman sacrificial patella, as also very possibly the sword from the Witham—though this latter object is evidently of some centuries later date—may have been manufactured abroad. Montfaucon illustrates an example (one of the three named) found in France; it is similar to our No. 4, but below the pierced trefoil at the end of its handle appears the maker's name, "NARGISS."* The Gaulish, or rather perhaps Romano-Celtic character of this and other manufacturers' names quoted is worthy of note, and it is interesting to compare them with those of potters, during the Roman period, found upon fictilia in France. Mr. Roach Smith, who opines that all the bronze vessels above recorded are the products of Britain and Gaul, gives in his list of Gaulish

* Vol. III, Book iii.

potter's marks,* "SACRILLOS CARATI," on a mould of white clay, ("*C. Aretti*" or "*Caretti*" occurs in London); "BODUOC F." appears on a vessel from the valley of the Allier, and "BURDONIS" has been met with in London. Boduognatus was the name of a chief of the Nervii, whom Cæsar subjugated;† and "BODENI" (probably part of *Bodenius*) occurs in Mosaic-work, in a fragmentary inscription formed of unusually large letters, in a fine pavement of the Roman villa at Thruxton, Hants. The affinities of these two series of names, the one on metal the other on terra cotta, will be apparent to all. It was through such carefully educed ethnological affinities, that enabled Mr. Smith to determine the respective Roman provinces in which certain classes of fictilia were produced long anterior to the discovery of the local kilns, which remarkably confirmed his attributions and set the vexed question to a great extent at rest.

The manipulation of bronze and brass was necessarily a costly and troublesome process at this period, yet it must have been introduced at a still earlier one into our country, though whether by Phœnicians, Carthaginians, or some Romanised-Gallic tribe, constitutes matter of current dispute.

This paper has already far exceeded its intended limits, but it may be desirable to complement it by a short reference to the chief Roman remains hitherto known to have been found in the lower reach of the beautiful vale of Clwyd, upon the western side of which these interesting vessels were encountered.

Abergele lies about four miles from the nearest bend of the Clwyd, which, eight miles directly above, is joined by the little stream *Whiler*‡ from the east, at Pontruffydd, shortly after the latter has passed the finely situated village of

* *Coll. Antiqua*, vol. vi, pp. 69–71. † *Comment. de Bell. Gallico*, II, p. 23.

‡ *Wheeler* of the Ordnance Maps, the concoctors of which having been misled, as in hundreds of other instances, by the pronunciation.

Bodfari, which, in *Benton's Itinerary of Antoninus*, and copied in *Lewis's Topographical Dictionary*, is said to take its name from the Roman *Varis*, through signifying "*the "mansion of Varus.*" *Bod*, undoubtedly signifies a settlement (or equivalent to our English *abode*), but as no mention is made in history or tradition of any general or other public officer in Britain, named Varus, the probability lies in favour of a derivation from the adjacent *ford* of the Clwyd, inasmuch as Dr. Gale intimates, apparently from Pliny and Camden's remarks, that *varia* and *varus* (as in *Dunovaria, Isannavaria, &c.*) are Latinised forms of a *native word* signifying a ford or shallow, probably bar, *far*,* or *var;* instance the appellation of a pass through the Clwydian mountains, south of Moel Fammau, and about three miles west of Ruthin, *Bwlch pen baras*. Fragments of weapons, ornaments, urns, and other Roman objects, are said by Lewis to have been found in the groves of Pontruffydd Hall, in addition to coins at the point of junction of the Whiler and Clwyd, the supposed site of the ancient station upon or adjacent to a north-eastern branch of the Watling Street, which passed from Chester (Deva) to Caerhun (Conovium), situate upon the left bank of the Conway. The actual line of its route is undetermined, but, until recently, the local antiquaries have held it to lie almost directly west from *Varis* (three miles north-west of Denbigh), across the whole shire to the Conway. Recent discoveries, however, have served considerably to modify this view and to mark out, at least in the first instance, a north-western course.

Pursuing this presumed route, four miles from Varis, brings us to the southern side of St. Asaph (Llan Elwy) which, though commonly understood to derive both origin and name from a Church here erected in the 6th century, is not improbably of much earlier date. The township in

* *Ffar*, that extends out or over.—*Pugh's Dictionary.*

which it is situate is called *Bryn Polyn*, a name traditionally believed to have been derived from the Roman general Suetonius Paulinus. Three additional miles in advance, Kinmel Park is reached, a fine domain of the Dinorben family, and now the residence of H. R. Hughes, Esq., a nephew of the late lord. The old manor-house was once the residence of the Cromwellian General Carter, who it is said here concealed the Protector; and until very lately an extremely large spur hung in the church of the village of St. George, a mile further, which tradition asserts to have been worn by the redoubtable Oliver.

To the westward of St. George, a range of hills projects into the vale, the most prominent rocky elevation being Parc-y-Meirch (*vulgo* Peny-Park Hill), or "the field of the "horses," which overlooks the ancient manor-house of Dinorben, and indeed commands a fine prospect both up and down the vale. This was the site of a Roman encampment, in succession no doubt to an ancient British one, and appears to have been the centre of a host of battle grounds. Numerous local names still attest the murderous conflicts which occurred here in the 12th and 13th century, as *Pwll Angen*, "the pit "or hollow of death," now the Rectory; and *Duill-y-Bwa*, "the quillet of the bow," quillet being nearly equivalent to the English paddock. On Parc-y-Meirch the doubly entrenched camp was partially examined, during the past year, by W. Wynne Ffoulkes, Esq., of Chester, who reports the discovery of foundations of buildings; several descriptions of pottery, red, brown, and black, the last including some ornamental kinds of the so-called Upchurch ware; nails, a bronze coin, and quantities of animal bones, with numerous pebbles evidently brought from the sea-beach. This spot wants a thorough overhauling, and most interesting results may be anticipated from a careful manipulation of its rich and deep soil accumulating here from vegetable growth and calcareous

disintegration for many centuries. Immediately beneath the northern escarpment of the hill is a narrow belt of pasture land, which bears the name *Parc-y-Milwyr*, or "field of the "soldiers," where, last Spring, a large mass of human bones were discovered—no doubt removed from some battle-field in the contiguous gorge, not improbably during the gallant struggle of Owen Gwynedd for his country's independence, with Henry II. At the same time, upon the uprooting of a large ash tree, a remarkable assortment of objects, chiefly in iron, and connected with horse-gear, were exposed, and have been carefully preserved by Mr. Hughes. They include a curious quadruple buckle in bronze, with rings and chains, most of which were exhibited shortly after discovery at a meeting of the Society of Antiquaries. Westward, upon the elevated ground, and bordering upon a Roman vicinal road, many antiquities in bronze and iron have at times been met with, between Parc-y-Meirch and a point nearly opposite Abergele, as spear-heads, daggers, lance and arrow-heads, with a kind of battle-axe. These objects, now preserved by Lady Dinorben at her residence in Anglesea, are said to be mostly engraved in the *Archæologia*. Near Abergele, and over against the site of the deposition of the valuable nest of culinary utensils which have formed the subject of these pages, stands a ruined tower called the Old Windmill, but in all probability it is the relic of a watch tower, for which its elevated position is admirably adapted.

We thus find a presumed Roman station at the distance certainly of about ten miles, but connected with the site of these vessels by a military road. The immediate cause of the secretion of so extraordinarily large a number of culinary vessels at this spot, may have been a simple necessity of war, and considering also their excellent quality and superior workmanship, it seems highly probable that they formed part of the sutlery equipage of the commander in some expedition

from Deva or Conovium, who was temporarily forced to effect a hasty retreat along the vale from overwhelming numbers of half savage Kelts. The field is known as *Caemurddyn, i.e.*, "the field of the old foundations," such having been long known there, but their origin is very problematical.

From the account given by Tacitus it appears that his father-in-law, Julius Agricola, upon being nominated by the emperor Vespasian to the governorship of Britain, A.D. 78, inaugurated his command this same year by an attack upon the Ordovices, who were severely punished for their revolt. It is asserted that the Vale of Clwyd constituted the opening scene in this successful campaign, Anglesea likewise shortly falling under the general yoke of Rome.

Since these notices were submitted to the Society I have been kindly presented by the writer, Edmund Oldfield, Esq., M.A., F.S.A., and Secretary to the Arundel Society, with a copy of his article, contributed to the current half-yearly volume of the *Archæologia*, upon some Roman bronze vessels discovered upon the Castle Howard estate, Yorkshire, in June, 1856, of which I had been previously unaware. They comprise a "*nest*," five in number, of similar receptacles to the skillets of the Abergele find, from which they only appear to differ, exteriorily in the trifling ornamentation, and interiorly by greater proportionate depth. The *regulation* of their sizes has suggested to Mr. Oldfield the idea of *measures of capacity*, which, so far as the intention of the makers to render each capable of certain contents, may readily be acquiesced in, but when further conclusions are arrived at, that not only were they standard measures but that their only other purpose was *sacrificial* and not culinary, I cannot but hold these as *non proven*. The subject is ably treated, yet with all due respect to the learning, research, and general experience of the writer, I consider some inductions to be thoroughly incon-

sequent and untenable. In elucidation of this conviction the subjoined remarks are laid before the antiquarian public.

Before proceeding to the *design* of the utensils, their *scarcity* or otherwise invites a passing remark, inasmuch as we are informed such "have frequently been found on Roman sites, "and are to be seen in several museums," a statement which, as we have seen, is contradicted by Montfaucon, who only engraves one example in his very comprehensive antiquarian repertory as found in the large and important province of Gaul. Turning to Britain, a very careful enquiry has failed to elicit the fact of discovery of even a *dozen* identified specimens, hitherto recorded, viz.:—Prickwillow 1, Durham 2, Colchester 1, Mount Bares 2, Masham 2, Ribchester 2, River Witham 1. Of these, several were merely represented by fragments; and as a "set off" to the reported *handles*, which may or may not have belonged to vessels of this form, the Prickwillow specimen is enumerated, though I deny its claim to be thus classified. Of the above, Mr. Oldfield only mentions *four*. As to museums of antiquities, their contents must be regarded with caution, and no doubt some held to be Romano-British may have come from Italy, rare as the latter are. Mr. Oldfield, in a postscript, mentions others he saw in the Paris Exhibition, 1867, found in ancient Gaul; but "one swallow does not make a summer," neither do all our discoveries of "skillets," the Castle Howard and Abergele ones inclusive, render these utensils of *frequent* occurrence.*

The antiquarian reader of this *brochure* cannot fail to note with surprise, the sacrificial character or purpose claimed for all the vessels of the skillet or saucepan form, *without distinction of metal or the elaborated ornamentation* of some examples. It is in this utter ignoring of discrimination that,

* Since this paper has been in press, I have been informed by Mr. Ffoulkes of a recent and unrecorded discovery of similar vessels in South Wales.

as I take it, the chief source of error lies. In the instance of the Prickwillow vessel it is by inference assumed that antiquaries have classed it along with such plain simple ones as those from Abergele; but how stands the fact? In the enumeration of objects forming the temporary museum of the Institute meeting at York, in 1846, we find it mentioned with culinary vessels of bronze, but this was the result of *shape*, not use. In the Catalogue of the museum of its late owner, Thomas Bateman, F.S.A., published in 1855, its understood character is unmistakably attested: "114 p. *Sacrificial vessel* "of bronze, with an elaborately ornamented handle," &c. Thus, for fifteen or twenty years at least, this receptacle has been acknowledged as sacerdotal, and yet Mr. Oldfield can remark, "the introduction of enamel into the handle of the "vessel found at Prickwillow is surely inconsistent with *its* "*use as a saucepan*" *!!!*

Antiquaries have been accustomed to consider, in common with Mr. Wright, that though we have "examples of tripods "used by the Romans to support culinary vessels over the "fire," yet "a great portion of their cooking appears to have "been performed *on stoves*, and the *few* supposed culinary "vessels that have been found in this country partake rather "of the character of saucepans and fryingpans than of "kettles."* Mr. Oldfield, on the contrary, deliberately assures us that these small vessels, if culinary, were "placed "upon a *heap of fuel*," and proceeds to state "that their "under sides shew no signs of the action of fire." This is begging the question in a most extraordinary fashion, and unless it can be shewn that cooking by stove was *un*practised, the argument is perfectly futile, inasmuch as, brought into contact with blazing fuel, these utensils would be simply *abused*. The *mouldings*, which are said to endanger the stability of the skillets, if placed upon the fire, were ingeni-

* *The Celt, the Roman, and the Saxon*, p. 336.

ously suited for the stove, their thinner intermediate portions of the surface, as Dr. Pearson has remarked, enabling the heat to act more quickly upon the contents than could possibly be the case with a base of uniform thickness.

Mr. Oldfield appears never to have had his attention directed to another important point—the relative condition of the sides of these and other vessels, which it may fairly be assumed were mostly used by *right-handed* servitors, as in the present day. In the cases of the Abergele skillets and cup—as probably would be found with all other examples—the side *poured from* is not only much thinner through increased use and scouring, but in one of the pans the metal is worn through on this particular side, whilst the rest of the vessel is strong and sound. The question may be referred to any impartial person—was such wear the result of the occasional service of the altar, or of the constant requirements of the kitchen?

The discovery of a clearly *incised* maker's name upon the handle of the Abergele skillet, No. 4, effectually disposes of another assertion of Mr. Oldfield's, "the inscriptions, which "occur on bronze vessels, are *all marked with a stamp*, and "record the maker's name."

I have purposely reserved the question of *measure and capacity* for final remark, as it is, unfortunately, almost the only novel conclusion of Mr. Oldfield's in which I can agree to any extent. He confesses that, out of his nest of five vessels—unquestionably a *set*—he has been unable to find a common multiple, or exact correspondents in these ordinary Roman measures, for more than *three*. One of the others contains 22 ounces, or just double the capacity of the Abergele examples, a fact which, though attesting design in the makers of all, would seem to point to quite a distinct basis from the sub-multiple of 5 *cyathi* (8 ounces), which answered with the former, holding respectively 16, 40, and 80

ounces. The largest of the Castle Howard vessels holds 92 ounces, thus agreeing with *neither* of the two sets mentioned. It will *not* do to imagine any discrepancy, but, in fact, we are still minus the true key to these measures of capacity, if such they were, and Mr. Oldfield's ingenious suggestion but supplies an inkling of the system or design pursued. It must be conceded, however, that all these vessels in point of capacity bear *some* certain or definite relation to one another.

From the above remarks, made in no *ex parte* spirit, but with every desire to arrive at the truth, it will be apparent to all, that I can see no occasion to alter the title, or even to modify materially the memoir submitted in the preceding pages. The conviction remains strong as ever that the greater portion of the bronze vessels ordinarily termed skillets or saucepans, and certainly all the plain ones—whether precise measures or no—were *mainly designed for culinary purposes*. The more ornamented vessels, and such as were made of silver, on the contrary were doubtlessly designed for the service of the altar. The other Abergele utensils I still consider to be simply such as would be used at the table of a military officer or civilian of position.

THE LAST POPULAR RISINGS IN THE LANCASHIRE LAKE COUNTRY.

By A. Craig Gibson, F.S.A., Hon. Curator.

READ 28TH JANUARY, 1869.

IN former papers I have treated of the character of the people of the English Lake Country, and I may here note, that in no important respect do the natives of the portion of the said beautiful district, comprised within the boundaries of Lancashire, differ from the dalesmen generally. I believe I have said that they are not easily roused to anger or driven to combination, but that, wherever sufficient cause has arisen so to arouse or so to impel them, they have shewn a remarkable spirit of determination, a vigorous, but temperate, almost a peaceable, resolution to right themselves when they believed they were wronged, which, combined with a disregard of the probability, or rather the certainty, of very serious consequences, presents a phase of character evinced, so far as I can remember, by the people of no other part of Her Majesty's dominions.

Very few instances of the active development of this peculiarity of character remain upon record. More doers than talkers, and still more so than writers or recorders of their deeds, the dalesmen have failed to hand down any story of exploits performed by them before the beginning of the present century; and it is only through having conversed with surviving actors, and having obtained information at second hand, that I am enabled to present an authentic account of two remarkable demonstrations of the old resolute spirit of the dales exhibited about the time I have mentioned.

In the years 1799 and 1800, as history informs us, this country was visited by a dearth of provisions amounting to an actual famine, the consequence of deficient crops and bad harvests, aggravated probably by wars which many of us now think unnecessary, therefore iniquitous, and by legislation which most of us now deem injudicious. Wheat, which in January sold at six shillings a bushel, reached at the end of the year eleven shillings and eightpence; the averages ruling at upwards of one hundred shillings a quarter, and the four pound loaf selling at two shillings.

The government of the time did what they thought might be done to alleviate the sufferings of the people, by such peddling measures as prohibiting the consumption of grain in distilleries and issuing proclamations against the sale of new bread. As may be imagined enactments such as these went a very little way indeed towards increasing the supply of breadstuffs, or reducing prices in the markets. The poor all over the country were kept agonizing on the verge of starvation, many died of absolute want, and, doubtless, many more, in numbers then unnoticed and now unknown, sank under the diseases which unfailingly accompany or follow the long continuance of physical privation.

The famine was everywhere, and bread riots were common and alarming in many parts of the country. Of these risings, which, holding their causes in view, we may hardly condemn, and certainly cannot wonder at, one of the most remarkable in its progress, incidents, and conduct, had its birth in the district I have indicated. The distress, as I have said, was universal and severe, and nowhere did it make itself felt more heavily than in the dales of High Furness. The great bulk of the population there was, as indeed it is still, dependent upon the work furnished by the slate-quarries and mines; and unlike the miners of Coniston in more recent times, those workmen were all natives of the dales—sons, brothers, and

other relatives of the small proprietors, then a much more numerous and a more primitive class than now. Their staple article of food was oatmeal, and that article, at the date specified, rose in the local markets to the terrible figure of eight shillings per stone of fourteen pounds, or more than four times its usual price; moreover it was procured with much difficulty and trouble even at that exorbitant rate. Everything that could be converted into food was consumed. A resident in Seathwaite told my informant that, having occasion to walk to Kendal in June, 1800, a distance of, say, five and twenty miles, he noticed that nowhere near his road could he see a single specimen of that generally most abundant plant the common nettle—all had been gathered as they sprung, and cooked in some fashion, to ward off the starvation that threatened the people so closely and so long.

The quarrymen and miners, then, of High Furness were come of a race not easily roused to united or unwonted action; but so roused, given to carrying out their objects with an impetuosity, resolution and daring hardly to be equalled; and when it came to be reported to these men and discussed by them during their hours of rest or of labour, that the scantiness and dearth of oatmeal were due, not as they had thought to exhaustion of the stocks in Low Furness, whence, mainly, their supplies had been drawn, but to the millers and dealers in and about the town of Ulverston withholding their stores from market, with the design of forcing still higher the already famine-causing prices, it was resolved that they should rise in what strength they could command and read these regraters and forestallers, as they were led to consider them, a lesson they might not soon forget or cease to profit by. With this determination they began their gathering in Langdale at very early morn, and marching southwards received accessions of strength in Tilberthwaite, Yewdale, Coniston and Torver. And so increasing like a snowball as it rolled

down the valleys, the little army, undisciplined but orderly and united, arrived at the Kirkby slate quarries in Low Furness, where the men at work were compelled to join its march. Hence we may infer that this expedition, any more than most others, did not consist entirely of volunteers. From the slate works of Kirkby, now of vast extent, these self-constituted redressers of supposed wrong, made their way across the high moorlands to Pennington. Approaching the mill near to that village they could see the miller and his servants running as for their lives up the hill beyond. They found no great quantity of flour or meal in store there, but helped themselves each to a handful of dried beans which they ate as they continued their route. One of the latest survivors of this strange *emeute*, in my time a well-to-do carpenter at Coniston, has told me that he found his handful of hard beans a most welcome and enjoyable meal, half-famished as he was by his long march and previous short commons, for even respectable mechanics like him were sorely pinched by the prevailing dearth.

From Pennington they directed their course by Swarthmoor to the mill at Bardsea. The miller there remained at his post, held parley with the invaders, exhibited his stores, and promised to expose it all for sale in Ulverston on the next market-day. He likewise, in acknowledgment of their orderly conduct, presented them with money for refreshment at the adjacent public-house.

They then resumed their march upon Ulverston—the principal goal of their expedition—and entered it by the suburban thoroughfare called "the Ellers." Proceeding up the street and making their errand known, they were slyly directed by certain women, who came to their doors to see them pass, to a large barn, used for the time as a warehouse for flour. The door of this building was fastened inside, and so, for some time, retarded their operations; but whilst they were

debating upon the means of overcoming this trivial obstacle, the man already alluded to, found a crevice by which he was able to introduce his hand and, unnoticed, to slip back the fastening, allowing the door to fall open.

A large store of flour and oatmeal was discovered here, concealed under straw, so far tending to confirm their suspicions and verify the information they had received.

Having procured hand-carts they began to carry the loaded sacks to the market-cross, where, while some continued to bring up fresh supplies, others announced that the contents of the sacks were to be given to all comers without money or price; and began at once their distribution. In a remarkably short time, numbers of women came with bags, pots, pans, tubs, and all sorts of receptacles—some of them usually applied to very different purposes—to carry away the food thus unexpectedly and, as they felt, providentially offered for their acceptance. Those women who came unprovided with other means of carrying it away were called upon to "hold their "brats," and received apronfuls as heavy as their strings would bear. When a sack was getting almost empty, she who happened to be in turn, for a sort of order was observed, was given what was left with the sack to carry it home in. My old neighbour was struck with the stature and apparent strength of some of these women, and always declared his belief that many of them were men in women's clothes.

A great number of loads were disposed of in this summary manner, the owner looking on and addressing an occasional remonstrance or entreaty, for long disregarded, to the distributors. But when the number of recipients had considerably diminished, and some of the well-known and respectable inhabitants of the town added their remonstrances to those of the unfortunate dealer, the rioters, for so we must deem them, their object being not spoliation but warning, stayed their proceedings while a considerable quantity of the stock yet

remained unseized, and, accepting the solemn promise of the proprietor that he would bring the whole of his still remaining store to market on the three market-days next ensuing, they carried their attentions elsewhere.

Several millers and other holders of meal and flour were visited, promises to sell exacted, and threats held out that, if those promises were not fulfilled, they would return and enforce their fulfilment in the manner of which they had just given an example.

Matters being so arranged, the dalesmen left Ulverston and made their way, as they best could, to their several homes, which they all reached, weary and foot-sore after a day's march which in many instances exceeded fifty miles.

The most remarkable circumstance connected with this daring defiance of the law was, that no one was punished for taking part in it. None could be called ringleaders, inasmuch as all were equally active and eager, and the plan of proceeding being probably pre-arranged, no orders had to be given and no one had to direct. The local magistrates may have compassionated the distress that incited the demonstration, and some of them might not altogether disapprove of its object or results, illegal though it was. It may also have been taken into consideration, that though the rioters were virtually or rather actually masters of the situation and of the town—with its shops, houses and *public*-houses—for several hours, and had it in their power to perpetrate any amount of mischief and damage, no violence was offered to any person, and no injury to property beyond what was necessary to achieve the declared object of their visit. Many of the men engaged in the affair were personally known in Ulverston, and no attempt at disguise or concealment was practised during their lawless proceedings, which were all carried out in the broad light of day, yet, as I have said, the

authorities took no steps to bring them to justice, and no prosecution was instituted against any one concerned.

Whether emboldened by this immunity from punishment or goaded to desperation by what they felt to be a grievous oppression, the same men, a year or two afterwards, made a second descent upon the same Market Town. On this occasion the draughts upon the people for recruiting the militia regiments were the *primum mobile* of the rising. Year after year they saw some of their relatives or their neighbours compelled to leave home under the operation of the ballot for the home branch of military service, and heard afterwards of their being drafted into some regiment of the line, and then, in many instances, never heard of them more. The system, as worked early in this century, amounted in fact to a conscription which, if not so universal as that practised in France, was quite as oppressive upon those to whom the lots fell. They did not recognize the necessity of the continuous drain upon their numbers or of the wars that demanded it. In case of invasion they would one and all, so they said, have volunteered to serve against the enemy, on the understanding that, like their forefathers, they should return to their homes and ordinary avocations after such invasion had been repelled and the safety of the country secured; but this annually recurring impressment of some of them to go fighting abroad they at length determined to resist, and to resist it in their own fashion.

With this resolve they again gathered in force and marched, this time, directly upon Ulverston, on a day when the magistracy and other county officials were sitting to arrange the militia ballot for the year. Forcing their way into the building where the authorities were thus engaged, the rioters ordered them to drop their proceedings and get out of the place; and seeing the threatening aspect of the men the magistrates and others, with one exception, had the discretion

to retire as commanded. The exception was Mr. Justice Brooks, father of the late Archdeacon of Liverpool, who, exhibiting a resolution to stand his ground, was seized by rude hands and thrust out of an open window, a gigantic and powerful miner of Coniston, named Park, grasping his ancles and suspending him for a time head downwards over the crowded street. This was the only personal violence they committed, and even Mr. Brooks was let off with the indignity and the fright, being hauled in again at the window and allowed to follow his colleagues, which, seeing the futility and danger of resistance, he did. The rioters, for so again we must call them, then collected all the books and papers they could find and carrying these to the market cross made a bonfire of them, despite the reading of the Riot Act and an occasional feeble demonstration on the part of the town constables, who were kept at bay chiefly by a slate worker named Wilmot, brandishing in their faces a large club-headed stick on which he had carved the head of a man, and called by the title of "Charley Fox the Peace-maker," which serves to indicate the political leanings of the dales people of that period.

Having thus, as they fancied, accomplished their object, they left the town without committing any further damage and again made the best of their way to their mountain homes.

Unlike the meal riot this was thought by the insulted authorities to demand punishment, and, the names and residences of many of those implicated being known, a small body of horse soldiers was sent to effect their capture. The military were seen riding up the road on the water-side, by two men engaged in fishing for char near the foot of Coniston Lake, who, guessing the errand of the redcoats, abandoned their net, and pulled with all their might directly up the lake to the village of Church Coniston, a distance of five miles,

and gave the alarm just in time to enable the culprits who happened to be there to escape to the fells and secure themselves in natural fastnesses inaccessible to military, whether horse or foot. Failing in their object at Coniston, the soldiers continued their march up the vales of Yewdale and Tilberthwaite—their drawn swords, as I have been told, flashing brightly in the sun. The men of Tilberthwaite and Langdale, however, had received notice from Coniston of the approach of the soldiers, and just had time to make arrangements by which, as the military entered the large excavated chambers of the slate quarries by the levels or drifts, they were able to clamber out at the top by means of ropes or ladders, and so to escape also to the mountains. A workman named Forster, I have heard, was left in one quarry upon a "gant" or small suspended platform on which he had been working, half-way up the face of a high crag, without means of escape, and trusting to the security of his position he treated the baffled soldiery to a great abundance of chaff, while they kept menacing him with their firearms and ordering him to come down, an invitation which he declined, asking them in turn to come and take him. Either feat being impossible the soldiers retired and rode quietly away down the valleys; the quarrymen returning coolly to their labour, only taking the precaution of planting look-outs in such positions as commanded the approaches.

These attempts at capture were repeated from time to time but always without success. The scouts performed their office so perfectly that the men, whether at work or at home, always received such warning as enabled them to make good their escape. Occasionally a false alarm was given—anything scarlet being held in fear—as when an old woman in a red cloak happened to be seen by a distant look-out, crossing the little eminence in Tilberthwaite called the "Horse Crag,"

and set all the workers of all the quarries in the neighbourhood scampering over the fells.

But this could not go on for ever. Some of those most deeply implicated migrated over the hills into Cumberland and wrought at the Borrowdale and Buttermere slate-works. One or two made their peace by enlisting, and a few who possessed property, amongst them a landed proprietor and lessee of slate quarries, of Tilberthwaite, an influential man there, who had imprudently made an encouraging speech to the rioters from the market cross at Ulverston, gave themselves up; but when, after traversing over the first assizes, they appeared at Lancaster, the Government withdrew the prosecution, and they escaped with the payment of rather heavy costs.

So ended, somewhat ignobly, the latest demonstrations of the old defiant spirit of the dales. More than forty years after their occurrence I have heard them talked of by some who took part in them, but talked of in a manner so disjointed and obscure, as to the order and succession of their incidents and the nature of their causes and objects that, but for the aid of an obliging friend, born in and belonging to the vicinity, who, at earlier dates, had availed himself of the fresher recollection of these events then existing, and so obtained and preserved an accurate knowledge of their details, their origin and results, I had not been able to place on record even this imperfect history, and it is probable that, like many earlier, more important, and more interesting affairs of the same nature, they would have fallen into the same oblivion which has enshrouded nearly all that has happened in the Lake Country since the days of Dunmail, who died—"Last King of rocky "Cumberland"—almost a thousand years ago.

OBSERVATIONS ON POPULATION STATISTICS.

Part I.

By Thomas A. Welton.

Read 17th December, 1868.

The importance of statistical enquiries is now so often illustrated and so generally admitted, that it would be needless to enter into a discussion on that head. But the greater the value of faithful and clear testimony, the more urgent is the necessity that we should learn to discriminate between such, and the misleading and imperfect evidence with which it is often associated. Not only is it desirable that incorrect inferences should be discredited, but it is equally so, that the censures of those writers who for the purposes of their argument may find it convenient to condemn statistics in the mass, should less frequently receive a partial justification.

In order to reduce within narrow limits the uncertainty which even attends deductions from numerical evidence, it is necessary, first, that the facts should be carefully recorded, so as to render the basis of calculation as complete, and as free from errors and omissions, as may be possible; next, that such facts should be arranged in a scientific manner; and lastly, that all circumstances tending to obscure the true results should be taken into account, and their influence eliminated, being approximately measured for that purpose by the aid of observation and comparison of kindred cases.

The field of statistical investigation is so large and so imperfectly explored, that it would be impossible, at present, to reduce the practical results of these general principles into the form of a treatise. All that can be attempted here is to exemplify the spirit in which such work should be performed.

The statistics of population are of universal interest, and will furnish many illustrations of statistical methods.

The numbers, the migrations, the ages, the mortality, the civil condition and the increase of nations, all have an evident connexion with their power, their happiness, or their progress. But these facts are but half understood, and the causes of their inequalities and fluctuations are only obscurely guessed at, by those who have not attended to the statistics of industry. It is proposed, therefore, in the first place, to examine the British Census of Occupations.

Occupations of the People of England and Wales in 1861.

It is necessary for the freedom of discussion so essential to the ascertainment of truth, that no deference should be paid to official or other authority beyond that which is properly due. But as to matters which are not within the scope of ordinary criticism, because their examination demands much time and labour, and offers little or no present recompense, there exists no standard by which the public can measure the claims of different authorities. There is no choice, therefore, but between an unconditional acceptance of official books, (with perhaps a few others by writers who have attained reputation,) and that personal investigation for which so few can find time. Hence in statistics, authority has become too much the arbiter of the public judgment, and is confined within the narrowest limits.

The writer devoted considerable pains to the re-arrangement of the English Census of Occupations for 1851. Some important improvements have been made in the last census, but it is not denied that much remains to be done. The Commissioners have indeed reprinted verbatim the remarks which they made in 1851, and which formed the motto of the work in which the writer's criticisms were embodied, viz. :—

"With the knowledge that has now been acquired, a "further enquiry may, we think, be instituted with advantage "into the industry of the country in all its ramifications; a "nomenclature be laid down; the various subdivisions of "labour be defined; and the classification be finally revised,

"so that at the next census the foundation may be laid of a "complete knowledge of the organization of the labour of "Great Britain. Such an enquiry would in many ways be "useful, and tend at once to extend science, to promote "production, and to dissipate subversive theories."

Their idea of an improved classification seems to be,* that it should be based on principles so precise and exhaustive as to indicate a place for every possible occupation.

This is an attractive object, but not one which should be unconditionally pursued. It appears to have directly led to the abandonment of any attempt to separate the manufacturing from the trading classes.

In the Appendix to the Report of the Commissioners we find (Table 82) an interesting statement of the proportions of the adult population of both sexes belonging to each of the great classes which they have adopted. The following figures are extracted therefrom :—

	(Year 1861.) To every 100 Persons aged 20 years and upwards.					
	I. Professional.	II. Domestic.	III. Commercial.	IV. Agricultural.	V. Industrial	VI. Indefinite and Non-Productive.
Division—						
London	5·9	41·1	8·4	1·6	36·1	6·9
Regist. County—						
Buckingham	2·7	30·6	1·9	25·4	33·0	6·4
Huntingdon.....	2·7	38·5	1·8	30·8	20 9	5·3
Cornwall	2·9	39·7	3·6	18·8	31 1	3·9
West Riding of York ..	2·0	35·4	3·2	9·8	46·0	3·6
Regist. District—						
Bath	5·6	41·6	3·4	6·9	32·8	9·7
Oxford	4·8	44·5	4·7	2·9	36·5	6·6
St. George, Hanover Square	7·6	55·1	5·2	1·9	24·4	5·8
Liverpool	2·4	40 8	19·1	·9	30 0	6·8
Hull	3·8	40·9	16·8	2·1	30·0	6·4
Sheppey	41·2	36·3	2·8	7·4	10 3	2·0

* See Dr. Farr's very remarkable essay, appended to the General Report of the Census Commissioners for 1861. The doctrines there expounded would require more space for their due examination than can here be afforded.

From this table we gather, first, that common soldiers and sailors being included in the professional class, the ratios resulting are almost unintelligible; secondly, that miners, traders, and manufacturers being included in the industrial class, the ratios derived from such a combination are of not much greater value; and thirdly, that the domestic class, being enlarged not only where servants are in request, but wherever hotels and other places of entertainment abound, and being diminished wherever women are employed in trades, manufactures, or agriculture, the ratios do not indicate with regularity either the preponderance or absence of the richer classes, or the degree of comfort enjoyed by the masses.

The figures for 1851, subdivided by the writer's original method, and shewn separately for males and females, are as under :—

	(Year 1851.) To every 100 Males aged 20 years and upwards.								
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	
	Agricultural.	Mining.	Manufacturing.	Trading	Commercial.	Menial.	Professional.	Governmental.	Unclassified.
Division—									
London	2·3	·0	10·6	43·9	17·0	4·6	3·3	7·1	11·2
Registration County—									
Buckingham	48·3	·0	2·1	29·3	5·0	2·5	2·0	1·4	9·4
Huntingdon	53·9	·0	1·1	27·2	6·4	1·7	1·9	1·4	6·3
Cornwall	32·7	24·8	2·2	23·5	7·3	1·0	1·5	2·7	4·3
West Riding of York	15·8	5·2	36·6	26·8	6·2	1·0	1·4	1·2	5·7
Registration District—									
Bath	13·1	1·9	4·6	44·1	9·1	6·3	4·4	4·4	12·0
Oxford	4·4	·0	4·8	45·3	10·6	9·8	6·5	2·4	16·2
St. George, Hanover Sq.	1·4	·0	4·1	33·8	13·8	24·1	5·2	8·5	9·1
Liverpool	1·6	·2	6,6	36·2	33·5	1·4	1·8	2·9	16·0
Hull	3·5	·1	6·0	40·9	33·8	1·3	1·6	3·3	9·8
Sheppey (Sheerness)	15·9	·0	·9	14·5	4·6	·7	1·2	57·2	5 0

	(Year 1851.) To every 100 Females aged 20 years and upwards.								
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	
	Agricultural.	Mining.	Manufacturing.	Trading	Commercial.	Menial.	Professional.	Governmental.	Unclassified.
Division—									
London	·3	·0	2·3	20·6	·2	18·1	1·7	·0	56·8
Registration County—									
Buckingham	7·0	·0	22·2	11·5	·1	8·7	1·2	·0	49·2
Huntingdon	8·7	·0	3·4	11·4	·1	8·1	1·5	·0	66·9
Cornwall	11·8	2·3	·3	11·5	·2	8·8	1·0	·0	64·1
West Riding of York	6·1	·0	14·8	11·4	·3	6·4	·9	·0	60·1
Registration District—									
Bath	2·0	·0	1·1	24·3	·1	25·5	2·0	·1	44·9
Oxford	·4	·0	·5	23·1	·2	17·6	2·1	·1	55·9
St. George, Hanover Sq.	·4	·0	·4	14·2	·1	37·3	1·7	·0	45·8
Liverpool	·3	·0	·9	20·2	·3	15·3	·7	·0	62·2
Hull	·4	·0	·9	19·4	1·3	10·8	1·1	·0	66·0
Sheppey (Sheerness)	1·8	·0	·2	11·1	·1	6·9	1·3	·1	78·6

It will be said, no doubt, that these last Tables are unscientific, as not being the result of the application of such exhaustive dicta as have been referred to. The reply is two-fold: first, that the data of a census of occupations must necessarily be somewhat inexact, so that the result of the most scientific principles, applied to such data, must at best be imperfect; next, that whilst the process I have adopted yields ratios which if substantially correct are intelligible and valuable, the degree of inaccuracy and uncertainty attending it is practically not considerable.*

I. To begin, then, from the foundation, it is requisite to note that the varying degrees of subdivision of labour, in the manufacturing and other districts, occasion considerable difficulty in the work of classification. Another even greater difficulty is occasioned by the fact that men often follow two

* The figures last given are derived from the Census of 1851, and beyond doubt, changes occurred in the proportions of persons belonging to the several classes during the succeeding decennium, but it would be difficult to gather from the Government table of ratios for 1861 (as shewn above) any idea of the nature and extent of such changes.

or more pursuits, or unite several trades in one establishment. Many unite the occupations of grocer and draper, innkeeper and farmer, &c., especially in thinly peopled districts. It being contrary to the principle of a census to reckon any person twice over, the enumerators were instructed to return each man under his occupations in the order of their importance, and in the general tables he was placed under that standing first in order.

These circumstances do not materially diminish the value of the census of occupations; for if errors are unavoidable, they also must to some extent counterbalance each other. The total numbers in each class probably approximate closely to the truth, especially as great care was bestowed on the collection and manipulation of the facts, a large number of intelligent men being employed as enumerators, and the papers being carefully perused and corrected by the local registrars as well as by experts at the chief office.

It should further be mentioned that, with a view to ascertain the total number of persons belonging to each class, all unemployed, disabled, and aged persons (including paupers, lunatics, and prisoners in gaols), were ranked according to the nature of their usual or former employments.

Their occupations being returned by the people themselves (except in a few cases), it is natural to suppose that in many instances the most creditable rather than the most important occupation has been filled in. Thus the "dangerous classes" hardly appear under their right description (except that there are a few "prisoners of no stated occupation" in the gaols), and it is probable that many of these altogether escape enumeration. How easily this might occur may be judged from an instance known to the writer, of a London shopkeeper who omitted all his lodgers (not wishing it known that he had any), and who also omitted his two elder daughters rather than declare their ages.

Tables are given shewing the occupations of prisoners, lunatics, paupers, and others, so that, if necessary, the non-effectives actually under public supervision may be deducted from the roll of our industrial army: the aged also may be excluded by the help of another table, but the idle and the vicious cannot of course be eliminated.

It will be seen that every one of the matters which have been referred to, is of a nature to operate in all communities with no very unequal effect.* The gross figures are, therefore, accurate enough for purposes of comparison one with another, and for some objects (such as comparison with recorded deaths) are preferable to any others. Yet there is abundant room to believe that, even by the aid of an absolutely perfect system of classification, we could not derive exact results from such data, however satisfactory they may be for every practical purpose.

II. In order to shew that the ratios obtained by my rough method are intelligible and valuable, *if substantially correct*, it is necessary to consider that information of this nature is sought for the purpose of obtaining a faithful picture of the industrial character of a population.

On examining an unclassified return of occupations with this purpose in view, the first process of the mind is to disentangle from the mass of every-day employments, those which give to a district its distinctive character. The next is to consider whether there be any remarkable excess or deficiency in the proportion of the residue to the total number of inhabitants, and, if so, how it is caused.

The tables have been arranged with a view to anticipate this labour. For example, the Cornish ratios just given, taken in connexion with the national averages, shew that

* The varying proportion of old persons in different places may, however, be noticed, as well as the fact that at high ages the employments are not the same as in middle life; hence the exclusion of the old would affect different occupations diversely.

agriculture is the principal employment there, and mining next; that commerce and manufactures are not largely developed; that Government servants are far from being numerous; and that the residue (composed of the trading, menial, and professional classes, and those who are unclassified), is decidedly under the average. If the ratios of agriculturists and miners to *area* be next considered, it is seen that the former are rather fewer than the average, and the latter unusually numerous.

We have, then, a county remarkable for its mines, fairly cultivated, almost destitute of manufactures, and with little commerce. There is no trace of its being a chosen residence of the rich;—the small number of the menial and professional classes even forbids such an idea. The low ratio of the trading class points to the probability that the proportion of population resident in large towns is not great, and further suggests

First,—That the county is probably supplied in some measure from a neighbouring emporium beyond its borders;

Secondly,—That the inhabitants, perhaps, live simply and do much for themselves which is elsewhere performed by traders;

Thirdly,—That if the preceding suppositions are incorrect, the means and enjoyments of the inhabitants must fall below the average.

As to the correctness of the picture thus derived from a few figures, every one may form his own opinion. By subdividing some of the classes, further insight may of course be gained: it then appears, that there is a high proportion of persons engaged in seafaring pursuits, but a remarkably small one of inland traffickers; and also that those classes of traders who deal in food and dress are strikingly deficient, the ratios being lower than in any other English county.

The clearness and value of the results obtained may now,

perhaps, be admitted; but it may be urged that the Census Commissioners have subdivided their classes into orders, the ratios derived from which would be equally instructive. This is so far true, that amongst the orders are distinguished—

Persons engaged in the defence of the country.
Do. working and dealing in minerals.
Do. do. in the textile fabrics and in dress.
Do. do. in food and drinks.

The manufacturers, however, are not separated from the traders, nor the miners from the metal workers. The eighteen orders, therefore, fail to give the certainty either that mining is a leading industry in Cornwall, or that manufacturers are few. Nor is there more than very imperfect evidence as to the magnitude of the trading class.

It may still be urged that the tabular arrangements used in the census are avowedly provisional: to which the answer is, that so long as the principle is adhered to which forbids any attempt to separate the traders from the manufacturers, so long must the results be deficient in clearness, and, consequently, of small value.

III. There remains the question as to whether the degree of inaccuracy and uncertainty attending my mode of classification is practically inconsiderable. We cannot judge of that until the method itself shall have been expounded and illustrated. This shall be proceeded with without further reference to the census arrangements.

Method of Classification.

It should be stated at the outset, that the method now to be explained is not exactly the same as that set forth in my previous publications. More careful examination of the leading facts which were brought to the surface by the method at first pursued, has led to the adoption of several important

modifications. It may, however, be well to shew roughly the result which the old method would have produced if applied to the census of 1861; an exact comparison being rendered impossible by the changes introduced in the census classification—

	Males aged 20 yrs. & upwards.		Females aged 20 yrs. & upwards.	
	1851.	1861.	1851.	1861.
I. Agriculture	1,248,430	1,239,085	351,948	318,420
II. Mining	206,058	266,460	4,727	87
III. Manufactures: (a) Textile	333,158	329,492	235,139	326,365
(b) Metallic	207,079	297,816	18,136	23,851
(c) Other	84,651	99,889	48,581	56,496
IV. Traders: (a) Dealing in food, drink, &c.	311,264	357,109	119,376	140,863
(b) Dealing in Clothing	323,060	325,636	515,592	624,132
(c) Builders & others engaged about houses.	381,618	448,171	34,614	45,620
(d) Workers in wood	91,500	106,531	5,915	8,570
(e) Do. metal	100,541	110,543	547	781
(f) Other traders	198,081	230,001	42,583	41,105
V. Commerce: (a) Merchants, clerks, &c.	58,812	87,729	30	3,348
(b) Inld. conveyance, &c.	276,416	351,030	8,280	8,543
(c) Sea navigation, &c.	119,576	165,719	3,926	4,647
VI. Menial Occupations	105,829	114,050	580,768	690,092
VII. Professional do.	95,344	107,610	61,974	73,556
VIII. Governmental do. (a) Intl. admin.	67,245	74,731	1,893	3,007
(b) Defence	91,478	133,902		
Totals	4,300,140	4,845,504	2,064,069	2,369,473
Unclassified	416,873	385,069	3,015,495	3,383,512
Grand Totals	4,717,013	5,230,573	5,099,564	5,752,985

This table shews an immense increase in the number of miners and metal manufacturers, of merchants, inland traffickers, and seamen, and of the Government service, but comparatively stationary or retrograde numbers of manufacturers of textile fabrics, and of agriculturists. These figures point to the most potent influences which have during the last twenty years been acting on the national industries; such as free trade, railways, the great increase of production of minerals fostered by railways, the augmented armaments consequent

on political inquietude, and the effect of improvements in machinery, in increasing production without demanding the services of so many skilled workers as heretofore: liberating consequently great numbers of workpeople whose services were urgently needed in other departments.

As respects the Secondary Classes, there are indications of an altered distribution of labour, especially in the clothing trades; and, on the whole, there is some evidence of an improvement in the condition of the people.*

The above remarks will in some measure have illustrated the spirit in which I think this subject should be approached; it remains to give a condensed statement of the maxims according to which the new classification has been regulated.

First, the division of the population into primary and secondary workers is necessary for the sake of clearness, and is founded on natural laws.

Every population must depend primarily on some means of subsistence, such as agriculture, manufacturing industry, mining, commerce, fishing, or some public need which it subserves.

Every population must include persons who are *not* engaged in the predominant industry or industries of the place, but who furnish all manner of needful supplies to the others, perform all kinds of services, and subsist according as they or their wares are acceptable to the population amongst whom they live.

Those who are occupied in agriculture, mining, or any of the other industries on which populations primarily depend,

* The changes I have made in my classification tend to increase the numbers considered to belong to the Primary Classes. According to the old arrangement there were in 1861—

Primary Classes	2,620,092 men.	733,204 women.
Secondary do.	2,225,412 do.	1,636,269 do.

but on the plan now adopted there appear to have been—

Primary Classes	2,933,863 men.	754,385 women.
Secondary do.	1,922,525 do.	1,618,115 do.

are numerous or few according as the capabilities of the place are great or highly developed on one hand, small or undeveloped on the other. Nothing but the extent of subject matter on which they can work need limit their numbers. These are the Primary Classes.

Those who are occupied in supplying the wants of others, find in them their subject matter, and according to the numbers and expenditure of the population amongst whom they live, will they be few or many. These are the Secondary Classes.

These secondary classes are not, however, equally distributed throughout any population. For the public convenience they are chiefly congregated in towns, to which the primary classes and the public generally resort. And it must be noted that each secondary worker is in the same relation towards secondary workers of other descriptions, as towards primary workers. To the butcher, almost all persons except butchers, whether they be manufacturers, miners, merchants, or shopkeepers, are alike customers.

If, then, we desire to measure truly the numbers of the secondary classes, we must not compare towns with rural districts, but must endeavour to compare town with town, including or excluding in each case the surrounding districts dependent on the respective towns for the greater portion of their supplies.

It is evident that the ratio of secondary workers *must* as a rule be higher in towns than in country places; and especially in places which have long been the emporia of important districts. It is clear, then, that the ratios of primary workers must be lowest in towns, even where the same primary industries form the sole support of both town and country.

The true measure of the prevalence of particular primary industries is, therefore, the total *primary* population. The true measure of secondary industries is the total population of all ranks within the district which they serve.

Next, with regard to the application of the above rules. The boundaries of the districts which particular towns may be assumed to supply, can only be adjusted on the supposition that, although trading enterprises differ very much in their scope, yet by attributing to each town an area in some degree corresponding with the numbers of its traders, its boundary being modified by natural impediments to traffic, and limited by like areas being ascribed to other towns, a fair approximation may be arrived at. The transactions of the townsmen which happen beyond such a boundary may be assumed to equal those of outside traders which take place within it. This is all hypothetical, but then all averages rest upon such bases, and yet it is found that however little their positive value may be, their relative magnitudes have often great significance. Densities, for example, ought to be read with the proviso—"if the population of a certain district were "equably distributed, there would be so many persons on "each square mile," and rates of increase should be read—"if every hundred persons within the district had increased in "a like ratio, there would have been so many persons added "to each."

Even if the districts assigned to the several towns were perfectly appropriate, the ratios of population belonging to the secondary classes in such districts would not be uniform, although they would tend towards uniformity. Not only would there be different degrees of wealth diffused amongst their populations, and consequent differences in the average expenditure of the inhabitants, but in dense active populations the secondary workers would be more *efficient* than in those of the opposite character; moreover, the degree to which custom renders people dependent on shopkeepers and others for articles of daily use is much greater in some places than in others, so that even a small and not very efficient secondary population may be consistent with general wellbeing,

provided the mass of the people are accustomed to home work, wear homespun clothes, eat home-baked bread, and drink home-brewed ale.

The lavish expenditure which takes place wherever the wealthy resort for recreation causes the secondary classes to attain large proportions in fashionable watering places. On the other hand, some towns are so purely hives of industry, and are so completely overshadowed as to retail trade by some famous mart at no great distance, that in them the secondary classes exceed the average of the nation in a very trifling degree.

One of the phenomena which is most useful in determining to which of the two main divisions any given occupation should be assigned is this. The primary classes may be combined in any proportions: one place chiefly depending on mines, another on some manufacture, a third on agriculture, so that a knowledge of the number of manufacturers by no means helps us to the most remote idea of the number of agriculturists. The reverse is true of the secondary classes. From the numbers of the building trade, a conjecture may be hazarded as to those of butchers and bakers, and *vice versa*. It is true that the ratios between tailors, butchers, bakers, and builders are by no means uniform; yet there is a sufficient approach to uniformity to arrest the attention of the observer.

On the other hand, the great difficulty in the way of a perfect classification on the principles just laid down, is the impossibility *in practice* of drawing an indisputably correct line between the class of manufacturers and that of traders. If we were accurately informed for what market each man toiled, whether indifferently for the home consumer and the foreign trader, or specially for a small circle at home, and in the latter case whether for a section of the general public or for a peculiar class; we might probably assign to each his true place in such a classification. But we are not only

debarred by the nature of things from obtaining such complete information: we are aware also that many men have two or more occupations to depend upon, and that consequently nothing better than an approximation to correct results is within reach.

The rough distinction between those "employed in manu- "factures carried on in certain localities for other than local "consumption," and those "engaged in the preparation or "manufacture of articles for local demand, and in retail trade "generally," requires to be supplemented here and there. For example, makers of tools and implements in local demand for the especial use of particular orders of manufacturers should be added, if possible, to the ranks of the manufacturers whom they serve, and, at all events, included among the primary classes. It does not follow, however, that coach-builders and harness makers should be classed with those engaged in inland traffic, shipbuilders and sailmakers with those engaged in foreign commerce. Each of these occupations must be deemed primary as respects the public at large. For example, coachbuilders are not unfrequently collected into a few localities, so as to render their business a remarkable manufacture, and therefore should be separated from the more widely diffused class of coachmen and others engaged in the management of vehicles,—itself deemed secondary in its nature, because dependent in the main upon the occasional wants of the community among whom it exists.

Some trades, notably that of shoemaking, become important manufactures in a few places, although usually restricted to the supply of local wants. In such cases, there being no question but that the class is *usually* secondary and *occasionally* primary, and there being, further, no room to pretend to absolute accuracy in such statistics as these, it is probably the best course, as it is the simplest, to ascribe to the manufacturing class any notable excess beyond the usual

proportional number of such workers. In doing this, it is probably best to treat each town or city as a unit, since the single circumstance of an unusual number of shoemakers being found in a particular suburb (the average for the whole city not being remarkably excessive), would hardly justify treating that suburb as the seat of a manufacture.

And here it is well to remark, that the enumerations made in this country have regard to the *homes* of the people—that is to say, the places where they sleep; and this method tends in no small measure to render obscure our information as to the degree in which particular trades may be localized in great cities. It affords also an additional reason for caution in using the occupation statistics of *parts* of large towns.

Manufactures which are apt to be widely diffused, partly because their material is as generally obtainable, and partly for the reason that greater concentration would entail needless charges for the transportation of a bulky article to the place of manufacture and thence to that of consumption, although they may be intimately connected with the supply of localities near which they are established, may still be deemed of a primary character. Millers, maltsters, brewers, tanners, and brickmakers need not be brought in contact with the general public, nor are they necessarily found in the neighbourhood of every great city.

It would not, perhaps, be safe to attach greater significance to the circumstances last referred to than would lead us to attend to them in doubtful cases; yet in such cases they afford considerable assistance. The mere fact that the proportional numbers engaged in an occupation of the nature of a manufacture vary exceedingly in different places, affords a strong presumption that the occupation in question is really a primary one, although in such cases as that of the patten and clog-making trade in Lancashire, which depends on a local want, the presumption would fail.

Some manufactures are carried on differently in particular localities. Watchmaking is a manufacture in Clerkenwell, but a mere trade in many other places, where the watchmaker obtains all the parts of his watches ready made, and puts together only a few for his customers. Such a man is as truly one of the secondary class as a tailor can be. In like manner the dyers of Manchester, or of Macclesfield, are largely engaged in executing wholesale orders, but in most parts of London dyers are merely shopkeepers, or at all events supported mainly by retail business. So with printers, there are on one hand large firms producing a multitude of publications; on the other small local men, who live by printing tradesmen's circulars and handbills, and executing odd jobs. Distinctions such as these might perhaps be effectually drawn, by means of special instructions to the enumerators, but nothing of the kind is shewn in the Census Tables, and indeed the principle on which they are framed is not such as to draw attention to the subject.

Those engaged in constructing railways, or in any temporary operation of kindred character, are naturally part of the primary class. They require supplies from the secondary traders, and afford none themselves.

Any occupation restricted by nature to certain places where the requisite physical conditions can alone exist, must be a primary one. Such are the employments peculiar to seaport towns.

There is some difficulty in determining not only the limit between the manufacturing class and that of traders, but also that between the traders and the merchants. The word "merchant" is so loosely used that, for instance, one cannot be sure how many out of the 5,586 timber merchants are strictly entitled to the designation. Certainly the number of firms who import timber from abroad is considerably under a thousand, and many of these are only in a small way of

business. The safest plan is, perhaps, to add a sub-order of wholesale dealers in staple articles to the mercantile class. This would lead future enumerators to distinguish more carefully between petty traders and true merchants.

As all these explanations would otherwise convey but a vague notion of my mode of classification, I annex a Table of the occupations of the English people in 1861, founded on the principles set forth, by the aid of which it may perhaps be possible to form an opinion on the third point which remained for consideration. (See *ante*, page 63.) Further light might be thrown upon the subject by an elaborate tabulation of the occupation statistics of groups of Registration Districts, a work which would however demand a separate paper for its proper treatment. The tables of per centages for some of the most important counties, which will be found at the end of the present paper, will shew, amongst other things, how the secondary classes vary in their proportionate numbers. To assist in explaining such variations, I subjoin the ratios of urban population given by the Registrar-General (Report, Table 45):—

County.	Urban Population, per Cent.	Secondary Workers (Adult Males), per Cent.
Warwick	72.5	37.2
Lancaster	69.7	34 1
E. Riding (with York)	62.8	39.1
Gloucester	55.1	41.7
Chester	54.5	34.3
Northumberland	54.3	34.5
Stafford	53.9	29.2
West Riding	53.8	30.8
Devon	52.4	34.4
Worcester	52.1	33.5
Durham	49.3	28.8
Salop	35.5	31.4
Somerset	34.9	36.7
Hereford	25.1	31.9

It will be seen that the proportions of secondary workers do not follow the same order as those of urban population. This is partly because important marts such as Bristol, Birmingham, Newcastle, and York contain much larger proportions of traders than ordinary towns, and, standing on the verge of their respective counties, occasion the ratios within them to be unusually high; whilst they have a contrary influence on the ratios in the bordering counties, such as Stafford and Durham. The high ratios in Gloucester and Somerset are in a certain degree due to Cheltenham and Bath. In Lancashire and other northern counties, the secondary classes are probably more *efficient* man for man than in the counties further south,—not only because of the greater activity of their industrial classes, but also because of the denser aggregation of inhabitants in manufacturing than in rural districts.

TABLE I.—OCCUPATIONS, ENGLAND AND WALES, 1861.

IN CLASSES AND ORDERS.

Class	Order		Age 20 years and upwards.		Age under 20 years.	
			MALES.	FEMALES.	MALES.	FEMALES.
		Primary Occupations.				
I		Agriculture—				
	1	Agriculture and Grazing	1,215,673	318,258	332,766	60,185
	2	Fishing	13,967	1,107	3,025	581
II	3	Mining	271,652	655	102,579	313
III		Commerce and Navigation—				
	4	Commerce	121,003	3,348	22,261	181
	5	Navigation	120,855	422	20,550	21
IV		Manufactures—				
	6	Textile	316,844	324,847	135,067	212,330
	7	Metallic	306,255	24,356	97,824	20,100
	8	Other	366,359	80,862	90,920	45,928
V		Service of National Government—				
	9	Internal administration	27,465	530	1,013	37
	10	Army, Navy, &c.	125,209	..	20,730	..
VI	11	Occasional and insufficiently defined occupations	48,581	..	7,807	..
			2,933,863	754,385	834,542	337,676
		Secondary Occupations.				
VII		Trading—				
	12	Dealing, working in Dress	323,923	609,486	67,577	111,979
	13	" Food, Drink, &c.	311,569	168,875	54,084	10,405
	14	Builders, &c., engaged about Houses	413,097	25,430	70,298	149
	15	Others	208,415	45,947	41,420	8,900
VIII	16	Inland Conveyance and Warehousing	389,027	7,978	109,392	2,801
IX	17	Attendants and Servants	108,692	680,662	35,401	378,550
X	18	Professional Persons	132,446	72,827	19,281	16,575
XI	19	Local Government and Police	33,855	3,883	449	84
XII	20	Insufficiently defined Occupations	1,501	3,027	2,049	1,493
			1,922,525	1,618,115	399,951	530,936
		Unclassified Persons	374,185	3,380,485	3,311,193	3,668,368
		Totals	5,230,573	5,752,985	4,545,686	4,536,980

TABLE II.—OCCUPATIONS, ENGLAND AND WALES, 1861.

IN SUB-ORDERS.

Order	Sub Order		Age 20 years and upwards.		Age under 20 years.	
			Males.	Females.	Males.	Females.
1	1	Agriculture and Grazing	1,136,379	316,577	323,468	60,000
	2	Arboriculture	7,922	7	995	2
	3	Horticulture	71,372	1,674	8,303	183
			1,215,673	318,258	332,766	60,185
2	4	Fishing	13,967	1,107	3,025	581
3	5	Mining	234,656	87	95,696	7
	6	Quarrying	36,996	568	6,883	306
			271,652	655	102,579	313
4	7	Mercantile	89,729	3,348	18,682	181
	8	Dealers in Staple Articles	31,274	..	3,579	..
			121,003	3,348	22,261	181
5	9	Sea Navigation	89,964	422	17,544	21
	10	Harbour and Dock Service	30,891	..	3,006	..
			120,855	422	20,550	21
6	11	Cotton and Linen Manufactures	149,701	158,605	80,062	120,659
	12	Woollen and Worsted do.	93,528	60,753	35,512	42,980
	13	Silk do.	34,074	49,347	10,065	23,521
	14	Hosiery, Lace, &c. do.	39,541	56,142	9,428	25,170
			316,844	324,847	135,067	212,330
7	15	Iron and Steel, Manufactures of	149,520	11,411	49,341	7,632
	16	Tin, Lead, Copper, &c., do.	45,977	9,043	17,011	9,475
	17	Engines, Machines, and Tools, do.	67,587	1,340	18,985	1,131
	18	Gold, Silver, Watches, &c., do.	33,684	2,139	8,943	1,572
	19	Arms, do.	9,487	423	3,544	290
			306,255	24,356	97,824	20,100
8	20	Ship Building and Furnishing	44,263	1,670	12,145	644
	21	Ceramic Manufactures	31,572	8,232	13,217	6,428
	22	Manufactures of Clay and Stone	35,000	750	10,112	1,102
	23	„ Wood, Bark, &c..	58,546	631	10,023	273
	24	„ Leather	25,998	2,357	5,097	1,601
	25	„ Grain	36,416	393	5,854	21
	26	„ Beer and Spirits	19,425	300	1,351	19
	27	„ Chemical Products	14,798	489	2,554	407
	28	„ Carriages and Harness	30,886	1,071	7,119	466
	29	„ Paper, Books, &c.	39,746	8,617	16,244	5,853
	30	„ Hats, Gloves, Straw Bonnets, &c.	13,953	52,764	3,621	25,490
	31	„ Musical Instruments	4,193	..	886	..
	32	Other Manufactures	11,563	3,588	2,697	1,624
			366,359	80,862	90,920	43,928
9	33	Government Officers	10,493	79	742	30
	34	Revenue „	10,046	..	163	..
	35	Law „	6,926	451	108	7
			27,465	530	1,013	37

TABLE II.—(*Continued.*)

Order	Sub Order		Age 20 years and upwards.		Age under 20 years.	
			Males.	Females.	Males.	Females.
10	36	Army and Militia	79,077	..	11,928	..
	37	Navy and Dockyard Service	46,132	..	8,802	..
			125,209	..	20,730	..
11	38	Construction of Railways, &c.	33,419	..	3,130	..
	39	Occupations (primary) insufficiently defined	15,162	..	4,677	..
			48,581	..	7,807	..
12	40	Dealing, working in Dress	323,923	609,486	67,577	111,979
13	41	Dealing, working in Food, Drinks, &c.	311,569	168,875	54,084	10,405
14	42	Builders, &c., engaged about Houses	413,097	25,430	70,298	149
15	43	Dealing in Household Furniture	91,931	13,200	22,897	3,920
	44	„ Fuel	23,129	2,786	2,941	1,898
	45	„ Artificial Lights	11,756	168	1,374	51
	46	„ Books, Music, &c.	17,301	3,562	3,680	730
	47	„ Drugs	12,767	538	3,407	81
	48	„ Sundry articles	10,778	590	2,162	250
	49	Auctioneers, Pawnbrokers	6,575	647	1,693	111
	50	Hucksters, General Dealers	34,178	24,456	3,266	1,859
			208,415	45,947	41,420	8,900
16	51	Working, maintaining Railways	52,427	145	7,417	12
	52	Working River and Canal traffic	29,425	218	6,128	46
	53	Working Road traffic	134,169	2,481	19,552	89
	54	Wheelwrights and Blacksmiths	110,292	385	27,465	10
	55	Messengers, Postmen	46,747	2,167	44,702	905
	56	Warehousemen	15,967	2,582	4,128	1,739
			389,027	7,978	109,392	2,801
17	57	Domestic Servants	89,417	587,268	31,774	376,897
	58	Others performing occasional services	19,275	93,394	3,627	1,653
			108,692	680,662	35,401	378,550
18	59	Engaged in tuition	25,108	67,495	7,691	15,625
	60	Legal profession	26,958	18	6,116	3
	61	Medical do.	24,551	145	2,192	..
	62	Clerical do.	32,906	2,046	437	255
	63	Other professional persons	22,923	3,123	2,845	692
			132,446	72,827	19,281	16,575
19	64	Local Government and Police	33,855	3,883	449	84
20	65	Occupations (secondary) insufficiently defined	1,501	3,027	2,049	1,493
—	a	Occupations indefinitely stated	274,331	5,256	53,020	3,504
	b	„ domestic	..	2,898,882	..	20,356
	c	Without occupation, independent	29,539	86,641	331	788
	d	„ „ dependent	13,408	251,490	3,250,873	3,628,034
	e	No return as to occupation	63,907	136,216	6,969	15,686
			374,185	3,380,485	3,311,193	3,668,368

TABLE III.—OCCUPATIONS, ENGLAND AND WALES.

IN DETAIL.

Sub-Order.		Age 20 Years and upwards.		Age under 20 Years.	
		Males.	Females.	Males.	Females.
1	**Agriculture and Grazing and Breeding Animals—**				
	Land proprietor	15,066	15,550	65	85
	Farmer, grazier	226,019	23,751	938	27
	Farmer's grazier's wife	..	163,498	..	267
	Do. do. son, grandson, brother, nephew	60,044	55,137	32,277	28,693
	Farm bailiff	15,556	..	142	..
	Agricultural labourer (out-door)	725,318	33,762	188,983	10,202
	Shepherd (out-door)	20,659	..	4,900	..
	Farm servant (in-door)	63,442	25,843	94,959	20,718
	Land surveyor, land, estate agent	4,191	..	511	..
	Others connected with agriculture	3,450	36	555	8
	Horse proprietor, breeder, dealer	1,238	..	46	..
	Horse breaker	1,396	..	92	..
		1,136,379	316,577	323,468	60,000
2	**Arboriculture—**				
	Woodman	7,914	..	993	..
	Others connected with arboriculture	8	7	2	2
		7,922	7	995	2
3	**Horticulture—**				
	Gardener (not domestic servant)	68,852	1,607	7,908	166
	Nurseryman	2,451	..	387	..
	Others connected with Horticulture	69	67	8	17
		71,372	1,674	8,303	183
4	**Fishing—**				
	Fisherman	13,967	162	3,025	73
	Net maker	..	945	..	508
		13,967	1,107	3,025	581
5	**Mining—**				
	Iron Miner	15,974	..	4,652	..
	Lead do.	14,233	..	4,319	..
	Tin do.	9,234	..	5,060	..
	Copper do.	11,938	..	5,789	..
	Coal do.	173,067	..	73,546	..
	Others connected with Mines	10,210	87	2,310	7
		234,656	87	95,696	7
6	**Quarrying—**				
	Stone quarrier	18,242	..	2,697	..
	Slate do	7,025	..	2,335	..
	Limestone quarrier, burner	4,781	..	726	..
	Salt manufacture	1,756	..	260	..
	Others working in salt	..	85	..	38
	Do. do. stone, clay	5,192	483	865	268
		36,996	568	6,883	306
7	**Mercantile—**				
	Merchant	12,571	..	373	..
	Banker	1,339	..	24	..
	Broker	2,673	..	211	..
	Stock, share dealer, broker	1,624	..	58	..
	Ship agent	2,310	..	253	..

TABLE III.—*Continued.*

Sub-Order.		Age 20 Years and upwards.		Age under 20 Years.	
		Males.	Females.	Males.	Females.
7	**Mercantile—**				
	Agent, factor	8,478	..	217	..
	Salesman	1,107	..	140	..
	Accountant	5,765	..	474	..
	Commercial clerk	39,421	..	16,236	..
	Do. traveller	10,410	..	344	..
	Insurance, benefit society agent, officer	2,384	..	332	..
	Others engaged in mercantile pursuits	1,647	3,348	20	181
		89,729	3,348	18,682	181
8	**Dealers in Staple Articles—**				
	Manchester warehouseman	2,303	..	963	..
	Iron merchant, agent	734	..	38	..
	Hardware man, dealer	954	..	126	..
	Coal, colliery agent, factor	1,875	..	51	..
	Corn merchant	8,445	..	757	..
	Timber merchant	5,566	..	570	..
	Wool stapler	2,045	..	232	..
	Fellmonger	1,616	..	262	..
	Skinner	1,409	..	276	..
	Cattle, sheep dealer, salesman	4,689	..	206	..
	Pig merchant, dealer	1,265	..	63	..
	Salt agent, merchant, dealer	353	..	35	..
		31,274		3,579	..
9	**Sea Navigation—**				
	Shipowner	1,551	242	17	4
	Seaman	78,028	..	16,637	..
	Pilot	2,794	..	186	..
	Boatman on seas	1,149	..	126	..
	Others connected with seas and rivers	6,442	180	578	17
		89,964	422	17,544	21
10	**Harbour and Dock Service—**				
	Harbour, dock service, dock labourer	29,572	..	2,878	..
	Wharfinger	1,319	..	128	..
		30,891		3,006	..
11	**Cotton and Linen Manufactures—**				
	Cotton manufacture	125,343	147,895	79,229	111,179
	Fustian do.	1,904	1,494	819	1,291
	Flax, linen do.	7,159	6,576	2,132	6,183
	Calico, cotton printer	7,934	846	2,762	1,014
	Do. dyer	3,443	45	1,274	10
	Thread manufacture	214	342	159	371
	Muslin do.	166	39	25	21
	Muslin embroiderer	..	15	..	2
	Tape manufacturer, dealer	..	519	..	365
	Others working and dealing in cotton and flax	3,536	834	662	223
		149,701	158,605	80,062	120,659

TABLE III.—*Continued.*

Sub-Order.		Age 20 Years and upwards.		Age under 20 Years.	
		Males.	Females.	Males.	Females.
12	**Woollen and Worsted Manufacture—**				
	Woollen cloth manufacture	61,095	30,370	20,109	18,460
	Worsted do.	18,177	26,045	12,907	22,813
	Stuff do.	1,956	1,159	497	343
	Carpet and rug do.	4,802	845	1,219	599
	Wool, woollen dyer	1,533	..	254	..
	Flannel manufacture	639	288	85	118
	Blanket do.	1,350	..	208	..
	Berlin wool dealer, worker	..	788	..	180
	Fuller	826	..	175	..
	Others working and dealing in wool and worsted	3,150	1,258	758	467
		93,528	60,753	35,512	42,980
13	**Silk Manufacture—**				
	Silk manufacture	27,042	44,417	8,073	22,146
	Ribbon do.	3,476	4,117	901	847
	Fancy goods do.	..	196	..	231
	Silk dyer, printer	2,191	..	427	..
	Others working and dealing in silk	1,365	617	664	297
		34,074	49,347	10,065	23,521
14	**Hosiery, Lace, &c., Manufacture—**				
	Hose, stocking manufacture	20,192	15,552	4,224	5,901
	Lace do.	6,692	30,836	2,188	14,271
	Trimming maker	..	938	..	483
	Embroiderer	..	1,524	..	674
	Dyer, scourer, calenderer	5,702	717	1,306	151
	Weaver (not otherwise defined)	1,943	2,620	263	957
	Others working and dealing in mixed fabrics	3,165	3,804	1,097	2,696
	Shawl manufacture	92	151	18	37
	Packer and presser	1,755	..	332	..
		39,541	56,142	9,428	25,170
15	**Iron and Steel Manufactures—**				
	Iron manufacture	92,620	1,089	30,810	1,252
	Nail do.	11,616	6,694	3,753	4,067
	Anchorsmith	3,000	343	964	265
	Boiler maker	10,284	..	2,732	..
	File do.	5,536	422	2,110	245
	Cutler	4,381	168	1,205	87
	Needle manufacture	1,644	1,192	690	550
	Grinder (branch undefined)	952	..	295	..
	Scissors maker	930	202	240	138
	Saw smith, maker	1,574	..	315	..
	Blade maker, forger	1,559	..	439	..
	Knife do.	4,024	..	1,326	..
	Razor do.	849	..	210	..
	Steel manufacturer, worker	2,326	..	860	..
	Screw cutter, maker	..	671	..	675
	Others working and dealing in iron and steel	8,225	430	3,392	353
		149,520	11,411	49,341	7,632

TABLE III.—*Continued.*

Sub-Order.		Age 20 years and upwards.		Age under 20 years.	
		Males.	Females.	Males.	Females.
16	**Tin, Lead, Copper, Zinc, and Mixed Metal Manufactures—**				
	Brassfounder	11,044	..	4,941	..
	Locksmith, Bellhanger	4,253	..	1,219	..
	Button maker	2,056	2,179	763	1,646
	Wire do.	2,453	..	889	..
	Wire worker, weaver	1,696	..	591	..
	Copper manufacture	3,032	..	795	..
	Zinc do.	579	3	164	14
	Lead do.	2,008	..	789	..
	Type founder	634	..	229	..
	Tin manufacture	1,735	1,554	1,531	2,432
	Tin plate worker	5,692	..	1,596	..
	Gasfitter	4,287	..	1,161	..
	Pin manufacture	..	216	..	191
	Steel pen maker	..	715	..	553
	Lacquerer	..	270	..	214
	Others working and dealing in mixed metals	4,976	1,811	1,883	1,263
	Do. in lead and antimony	323	475	44	495
	Do. in tin and quicksilver	124	254	46	204
	Do. in copper	33	1,529	10	2,452
	Others connected with designs, medals, &c.	1,062	37	360	11
		45,977	9,043	17,011	9,475
17	**Engine, machine, and tool manufactures—**				
	Engine and machine maker	48,296	..	12,511	..
	Tool maker	4,648	..	1,199	..
	Spindle do.	1,533	..	1,031	..
	Weighing machine, scale, measure maker	1,185	..	326	..
	Others making and dealing in tools and machines	10,827	1,248	3,695	1,126
	Do. in implements	1,098	92	223	5
		67,587	1,340	18,985	1,131
18	**Gold and Silver Workers, and makers of Watches and Philosophical Instruments—**				
	Goldsmith, silversmith	10,629	998	3,564	702
	Plater	1,447	..	457	..
	Watch, Clock maker, manufacturer	16,701	406	3,520	130
	Optician, spectacle maker	1,627	..	376	..
	Others working and dealing in gold, silver and precious stones	1,819	608	684	668
	Do. connected with watches and philosophical Instruments	933	127	220	72
	Surgical instrument maker	528	..	122	..
		33,684	2,139	8,943	1,572
19	**Manufacture of Arms—**				
	Gunsmith	8,299	..	3,263	..
	Others making and dealing in arms	1,188	423	281	290
		9,487	423	3,544	290

TABLE III.—*Continued.*

Sub-Order.		Age 20 years and upwards.		Age under 20 years.	
		Males.	Females.	Males.	Females.
20	**Ship Building and Furnishing—**				
	Shipwright, shipbuilder	25,659	..	5,619	..
	Block, oar, mast maker	1,518	..	434	..
	Sailmaker	3,065	..	1,059	..
	Others connected with shipbuilding	2,499	64	336	11
	Ropemaker	7,965	1,225	3,797	499
	Sailcloth manufacture	416	198	74	70
	Canvas maker, dealer	408	183	44	64
	Boat, barge builder	2,733	..	782	..
		44,263	1,670	12,145	644
21	**Ceramic Manufactures—**				
	Earthenware manufacture	17,676	6,387	8,462	5,547
	Glass do.	9,855	737	3,954	500
	Looking glass makers and others	1,025	347	195	100
	Tobacco pipe maker	2,325	640	462	210
	Others working and dealing in Earthenware	358	23	75	14
	Do. in glass	333	98	69	57
		31,572	8,232	13,217	6,428
22	**Manufactures of Clay and Stone—**				
	Brickmaker	28,996	750	8,772	1,102
	Clay labourer	1,952	..	713	..
	Stone cutter, &c.	4,052	..	627	..
		35,000	750	10,112	1,102
23	**Manufactures of Wood, Bark, &c.—**				
	Sawyer	28,854	..	2,781	..
	Lath maker	1,458	..	327	..
	Cooper	14,638	..	3,082	..
	Hoop maker, bender	987	..	268	..
	Cork cutter	1,564	..	513	..
	Wood carver	1,496	..	396	..
	Turner	5,843	..	1,785	..
	Others working and dealing in wood	3,630	540	863	248
	Do. do. in bark	51	91	8	25
		58,546	631	10,023	273
24	**Manufactures of Leather, Ivory, Horn, Bone and Hair—**				
	Currier	10,692	233	2,147	37
	Tanner	7,254	..	1,100	..
	Others working and dealing in skins, &c.	2,952	684	652	442
	Comb maker	1,137	121	142	78
	Others working and dealing in grease, bones, &c.	3,162	307	666	129
	Hair, bristle manufacture	734	985	375	908
	Others working and dealing in hair	67	27	15	7
		25,998	2,357	5,097	1,601
25	**Manufactures of Grain—**				
	Miller	26,446	393	5,243	21
	Maltster	9,970	..	611	..
		36,416	393	5,854	21

TABLE III.—*Continued.*

Sub-Order.		Age 20 Years and upwards.		Age under 20 Years.	
		Males.	Females.	Males.	Females.
26	**Manufactures of Beer and Spirits—**				
	Brewer	18,728	300	1,305	19
	Distiller, Rectifier	697	..	46	..
		19,425	300	1,351	19
27	**Manufactures of Chemical Products—**				
	Manufacturing chemist, &c. (including labourers)	6,545	..	960	..
	Sugar refiner	2,606	..	184	..
	Soap boiler	1,366	..	246	..
	Dye, colour manufacture	924	..	186	..
	Oil miller, refiner	1,286	..	427	..
	Others working and dealing in Chemicals	2,071	489	551	407
		14,798	489	2,554	407
28	**Manufacture of Carriages and Harness—**				
	Coach maker	15,979	..	3,381	..
	Whip maker	836	92	223	34
	Saddler, harness manufacturer	13,761	769	3,289	410
	Others connected with carriages	1,017	210	226	22
		30,886	1,071	7,119	466
29	**Manufacture of Paper, Books, &c.—**				
	Paper manufacturer	5,667	3,582	2,079	2,029
	Printer	20,450	259	9,721	160
	Bookbinder	5,050	3,164	1,506	2,200
	Engraver	3,717	..	950	..
	Lithographer, lithographic printer	2,218	..	689	..
	Envelope maker	..	463	..	397
	Paper box maker	..	507	..	556
	Paper stainer	968	248	588	151
	Others working and dealing in paper	1,676	394	711	360
		39,746	8,617	16,244	5,853
30	**Manufacture of Hats, Gloves, &c.—**				
	Hatter	9,515	2,262	1,215	822
	Glover (not otherwise described) and leather glover	2,461	15,649	568	6,622
	Glove knitter	..	260	..	176
	Straw plait manufacture	567	17,468	1,561	10,271
	Straw hat, bonnet maker	1,410	11,847	277	4,642
	Artificial flower maker	..	2,479	..	1,993
	Knitter (worsted)	..	1,611	..	414
	Fancy worker	..	1,188	..	550
		13,953	52,764	3,621	25,490
31	**Manufacture of Musical Instruments—**				
	Musical instrument maker, dealer	4,193	..	886	..
		4,193	..	886	..
32	**Manufacture of Other Articles—**				
	Hemp manufacture	..	137	..	44
	Floorcloth, oilcloth manufacture, & others working and dealing in hemp	2,364	1,209	704	349

TABLE III.—*Continued.*

Sub-Order.		Age 20 Years and upwards.		Age under 20 Years.	
		Males.	Females.	Males.	Females.
32	Manufacture of Other Articles—				
	Felt manufacture	288	..	74	..
	Japanner	1,187	743	250	455
	Toy maker, dealer	1,022	1,123	149	280
	Ginger beer, soda water, &c. manufacture	1,101	..	176	..
	Tobacco, cigar, snuff manufacture	2,999	376	1,039	496
	Coke burner	2,672	..	305	..
		11,563	3 588	2,697	1,624
33	Government Officers and Employés—				
	The Queen	..	1	..	..
	Royal Family	2	2	4	4
	Peers not otherwise returned	230	..	2	..
	Members of the House of Commons	252	..	..	..
	H.M. Court and Household (excluding domestics)	89	6	..	..
	Other Government officers, &c.	26	70	..	26
	Civil servants not in Post Office or Revenue Departments	6,548	..	448	..
	Messengers and workmen employed by Government	2,145	..	284	..
	East India and Colonial Service	1,301	..	4	..
		10,493	79	742	30
34	Revenue Officers—				
	Customs	5,549	..	89	..
	Inland Revenue	4,497	..	74	..
		10,046	..	163	..
35	Law Officers—				
	Magistrate	2,526	..	..	..
	Officers of Law Court	1,809	..	87	..
	Prison officer	2,591	451	21	7
		6,926	451	108	7
36	Army and Militia—				
	Army officer	5,455	..	852	..
	Do. half-pay officer	3,404	..	2	..
	Soldier	56,099	..	10,653	..
	Chelsea pensioner	11,326	..	16	..
	Militia	2,405	..	361	..
	Others connected with the Army	388	..	44	..
		79,077	..	11,928	..
37	Navy and Dockyard Service—				
	Navy officer	2,478	..	430	..
	Do. half-pay officer	1,537	..	1	..
	Seaman R.N.	12,539	..	5,199	..
	Greenwich pensioner	6,082	..	13	..
	Marine	7,127	..	1,604	..
	Coast Guard and others connected with the Navy	3,899	..	30	..
	Artificers and Labourers in H.M. Dockyards	12,470	..	1,525	..
		46,132	..	8,802	..

TABLE III.—*Continued.*

Sub-Order.		Age 20 years and upwards.		Age under 20 years.	
		Males.	Females.	Males.	Females.
38	Construction of Railways and other great works—				
	Railway labourer	25,140	..	2,629	..
	Excavator, navvy	8,279	..	501	..
		33,419	..	3,130	..
39	Occupations insufficiently defined—				
	Mechanic, Manufacturer	8,182	..	3,439	..
	Millwright	6,980	..	1,238	..
		15,162	..	4,677	..
40	Dealing in Dress—				
	Draper	33,684	8,849	11,976	3,144
	Silk mercer	816	..	166	..
	Hosier, haberdasher	3,504	1,777	823	349
	Clothier	1,145	95	118	19
	Tailor	94,312	21,627	14,792	5,759
	Milliner	..	223,421	..	62,877
	Seamstress	..	66,224	..	10,791
	Stay maker	..	9,057	..	1,541
	Cap do.	..	3,330	..	1,497
	Bonnet do.	..	4,394	..	1,362
	Furrier	912	1,228	146	433
	Clothes dealer, salesman, outfitter	2,846	1,795	365	193
	Shoemaker	175,536	29,047	35,687	10,311
	Do. wife	..	79,068	..	581
	Patten, clog maker	3,531	..	1,449	..
	Umbrella, parasol, stick maker	2,077	1,733	534	854
	Washerwoman, mangler, laundry keeper	..	155,669	..	10,773
	Others working & dealing in dress	5,661	3,172	1,531	1,495
		323,923	609,486	67,577	111,979
41	Dealing in Food, Drinks, &c., and providing Lodgings—				
	Butcher	53,908	2,258	12,387	261
	Do. wife	..	25,144	..	183
	Baker	37,995	5,602	9,964	589
	Flour dealer	1,422	377	110	12
	Cowkeeper, milkseller	11,559	3,513	2,182	340
	Cheesemonger	3,943	294	640	24
	Provision curer, dealer	6,968	3,358	574	152
	Poulterer	1,942	554	278	22
	Fishmonger	8,110	1,849	1,042	304
	Greengrocer	11,390	5,050	1,259	346
	Confectioner	6,918	5,354	1,480	774
	Innkeeper	21,163	6,732	170	249
	Do. wife	..	16,105	..	22
	Inn, clubhouse, &c. servant	17,074	9,598	7,379	4,547
	Publican, licensed victualler	31,184	6,980	218	264
	Beerseller	11,679	3,903	72	113
	Publican's, beerseller's wife	..	29,690	..	53
	Wine and spirit merchant	6,730	344	738	8
	Cellarman	1,542	..	226	..
	Grocer	60,025	18,327	13,714	1,417
	Tobacconist	3,150	1,176	499	119
	Cook (not domestic servant)	1,138	..	110	..
	Potato merchant, dealer	1,945	..	100	..

TABLE III.—*Continued.*

Sub-Order.		Age 20 years and upwards.		Age under 20 years.	
		Males.	Females.	Males.	Females.
41	Dealing in Food, Drinks, &c., and providing Lodgings—				
	Fruit, flower hawker, vendor	682	1,461	165	258
	Coffee house, eating house keeper	2,503	1,316	42	94
	Lodging house keeper	3,429	17,165	14	92
	Do. wife	..	2,027	..	3
	Others working and dealing in animal food	550	115	53	8
	Do. in vegetable food	393	578	28	54
	Do. in drinks and stimulants	2,971	679	316	127
	Do. in water	588	26	53	..
	Seed, meal merchant, dealer	1,943	..	210	..
	Waterworks service	1,425	..	81	..
		311,569	168,875	54,084	10,405
42	Engaged in House Construction—				
	House proprietor	11,377	24,550	25	80
	Architect	3,142	..	698	..
	Surveyor	1,617	..	226	..
	Builder	14,373	..	1,285	..
	Carpenter, joiner	150,780	..	27,038	..
	Bricklayer	68,422	..	11,001	..
	Mason, pavior	71,789	..	12,614	..
	Slater	4,552	..	710	..
	Plasterer	15,454	..	3,078	..
	Painter, Plumber, Glazier	61,900	424	12,272	23
	*Thatcher	4,681	..	674	..
	Paperhanger	1,896	..	405	..
	House agent, rent collector	1,743	..	81	..
	Others engaged in houses and buildings	1,372	456	191	46
		413,097	25,430	70,298	149
43	Dealing in Household Furniture and Utensils—				
	Cabinet maker, upholsterer	28,475	5,232	6,563	767
	Carver, gilder	4,020	..	1,215	..
	Picture frame maker	1,021	..	226	..
	Chair maker	5,378	702	1,446	434
	Box do.	1,049	1,058	399	794
	Bedstead, mattress, bed tick maker	1,241	..	376	..
	Furniture broker, dealer	3,101	699	162	35
	Ironmonger	7,177	396	1,989	45
	Whitesmith	7,748	..	2,104	..
	Tinman	5,754	..	1,966	..
	Brazier	1,779	..	440	..
	Coppersmith	1,474	..	408	..
	Earthenware and glass dealer	3,279	1,208	344	134
	Brush and broom maker	6,640	1,771	1,880	867
	Mat maker, seller	970	264	328	118
	French polisher	3,637	826	935	368
	Basket maker	6,602	601	1,513	179
	Others connected with carving and figures	1,853	94	474	34
	Do. working and dealing in cane, rush, &c.	733	349	129	125
		91,931	13,200	22,897	3,920

*No doubt Thatchers are very much engaged thatching stacks of farm produce, and if that be their chief employment they would be better placed in Class I.

TABLE III.—*Continued.*

Sub-Order.		Age 20 years and upwards.		Age under 20 years.	
		Males.	Females.	Males.	Females.
44	**Dealing in Fuel—**				
	Coal merchant, dealer	10,710	692	843	21
	Coal heaver, coal labourer	11,649	1,935	1,998	1,838
	Others working and dealing in coal	770	159	100	49
		23,129	2,786	2,941	1,898
45	**Dealing in, Providing Lights—**				
	Tallow chandler	3,690	168	777	51
	Gasworks service	8,066	..	597	..
		11,756	168	1,374	51
46	**Dealing in Books, Music, &c.—**				
	Publisher, bookseller	6,190	855	1,012	97
	Stationer	4,126	1,432	1,089	320
	Newspaper agent, vendor, &c.	1,844	..	561	..
	Others connected with books	551	533	98	42
	Do. prints and pictures	2,511	294	457	141
	Do. musical instruments	1,099	192	187	29
	Do. games and sports	980	256	276	101
		17,301	3,562	3,680	730
47	**Dealing in Drugs, &c.—**				
	Druggist	12,638	365	3,388	23
	Others making and dealing in surgical instruments	129	173	19	58
		12,767	538	3,407	81
48	**Dealing in Sundry Articles—**				
	Oil and colourman	1,976	103	350	9
	India rubber manufacturer, dealer	523	161	194	116
	Waterproof article maker, dealer	202	49	28	17
	Others working and dealing in gums and resins	637	29	145	6
	Wood dealer	2,271	248	721	102
	Fence and hurdle maker	816	..	153	..
	Hay and straw dealer	1,604	..	112	..
	Undertaker	1,068	..	88	..
	Marble mason	1,681	..	371	..
		10,778	590	2,162	250
49	**Auctioneers and Pawnbrokers—**				
	Auctioneer	3,334	..	208	..
	Pawnbroker	3,241	647	1,485	111
		6,575	647	1,693	111
50	**General Dealers, and Dealers in Rubbish and Refuse—**				
	Shopkeeper	4,390	9,727	166	297
	,, wife	..	2,030	..	2
	Hawker, pedlar	12,371	7,255	1,333	833
	General dealer, huckster, costermonger	11,388	3,065	1,160	266
	Other general dealers	336	1,473	57	174
	Marine store dealer	3,422	..	234	..
	Rag gatherer, dealer	2,001	906	268	287
	Dust collector, sifter, &c.	270	..	48	..
		34,178	24,456	3,266	1,859

TABLE III.—*Continued.*

Sub-Order.		Age 20 years and upwards.		Age under 20 years.	
		Males.	Females.	Males.	Females.
51	**Working, maintaining Railways—**				
	Railway engine driver, stoker	9,342	..	1,072	..
	„ officer, clerk, stationmaster	11,146	..	3,401	..
	„ servant, porter	24,094	..	2,633	..
	„ police	1,419	..	25	..
	Platelayer	6,176	..	283	..
	Others connected with railways	250	145	3	12
		52,427	145	7,417	12
52	**Managing River and Canal Traffic—**				
	Canal service	3,508	..	567	..
	Boat and bargeman, lighterman	25,661	164	5,560	43
	Others connected with canals and rivers	166	54	1	3
		29,425	218	6,128	46
53	**Managing and Working Road Traffic—**				
	Coach, cab, omnibus owner	3,201	148	25	..
	Coachman (not domestic servant), guard, postboy	16,693	..	558	..
	Carman, carrier, carter, drayman	56,792	563	10,278	18
	Cabman, flyman	8,508	..	447	..
	Others connected with conveyance	778	73	73	6
	Livery stable keeper	867	..	25	..
	Groom, horse keeper, jockey	29,832	..	6,763	..
	Others engaged about animals	1,701	121	197	3
	Road contractor, inspector, &c.	999	..	23	..
	Road labourer	8,896	..	577	..
	Toll collector	3,125	1,576	138	62
	Drover	2,677	..	448	..
		134,169	2,481	19,552	89
54	**Wheelwrights and Blacksmiths—**				
	Wheelwright	24,635	..	5,352	..
	Blacksmith	85,657	385	22,113	10
		110,292	385	27,465	10
55	**Messengers, Postmen—**				
	Post-office	11,325	1,685	984	137
	Messenger, porter (not Government)	32,318	332	42,274	705
	Telegraph service	1,044	150	1,355	63
	Others connected with messages	2,060	..	89	..
		46,747	2,167	44,702	905
56	**Warehousemen—**				
	Engaged in warehousing	13,596	2,550	3,984	1,728
	Others connected with storage	2,371	32	204	11
		15,967	2,582	4,188	1,739
57	**Domestic Servants—**				
	Domestic servant (general)	49,723	345,336	21,353	298,935
	Coachman	11,703	..	194	..
	Groom	13,218	..	8,178	..

TABLE III.—*Continued.*

Sub-Order.		Age 20 Years and upwards.		Age under 20 Years.	
		Males.	Females.	Males.	Females.
57	Domestic Servants—				
	Gardener	13,129	..	1,492	..
	Housekeeper	..	64,940	..	1,466
	Cook	..	73,354	..	4,468
	Housemaid	..	66,625	..	35,837
	Nurse	..	32,274	..	35,511
	Laundry maid	..	3,390	..	650
	*Gamekeeper	9,402	..	446	..
	Others engaged in attendance	1,242	1,349	111	30
		89,471	567,268	31,774	376,897
58	Others performing occasional services—				
	Barber, hairdresser	9,119	..	1,533	..
	Chimney sweeper	4,341	..	1,503	..
	Vermin destroyer	1,622	..	136	..
	Scavenger, nightman	1,286	..	88	..
	Charwoman	..	63,900	..	1,373
	Nurse (not domestic servant)	..	24,715	..	106
	Midwife	..	1,913	..	..
	Hospital, asylum, &c., attendant	1,593	2,698	58	99
	†Others connected with exhibitions, &c.	1,314	168	309	75
		19,275	93,394	3,627	1,653
59	Engaged in tuition—				
	Schoolmaster	17,591	35,412	879	2,257
	Music master	2,338	2,594	114	509
	Professor, teacher of languages	1,479	870	31	112
	,, ,, mathematics	455	..	11	..
	General teacher	2,071	6,791	6,612	9,499
	Teacher of dancing, gymnastics	412	..	19	..
	Governess	..	21,568	..	3,202
	Others engaged in teaching	762	260	25	46
		25,108	67,495	7,691	15,625
60	Legal profession—				
	Barrister	3,071	..	..	..
	Solicitor	11,386	..	..	..
	Law clerk	10,999	..	5,606	..
	,, student	487	..	219	..
	,, stationer	884	..	288	..
	Others connected with the law	131	18	3	3
		26,958	18	6,116	3

* Not strictly speaking Domestic Servants, but they would probably be out of place in any other sub-order—*ex. gr.*, if placed with Agriculturists as being breeders of Game.

† Including "billiard table keeper, marker," "show keeper, servant," "cricketer," "equestrian," and others: not very satisfactorily placed here, but not much superior in dignity to the rat-catchers.

TABLE III.—*Continued.*

Sub-Order.		Age 20 years and upwards.		Age under 20 years.	
		Males.	Females.	Males.	Females.
61	**Medical profession—**				
	Physician	2,385	..	..	..
	Surgeon	12,080	..	..	..
	Farrier, veterinary surgeon	6,132	..	642	..
	Medical student, assistant	2,276	..	1,290	..
	Dentist	1,331	..	236	..
	Others connected with medicine	397	145	24	..
		24,551	145	2,192	..
62	**Clerical profession—**				
	Clergyman	19,195	..	..	..
	Protestant minister	7,840	..	..	..
	Roman Catholic priest	1,216	..	..	..
	Other religious teachers and church officers	4,655	2,046	437	255
		32,906	2,046	437	255
63	**Other professional persons and artists—**				
	Author, editor, writer	1,480	..	48	..
	Others connected with literature	1,771	180	96	5
	Civil engineer	2,899	..	430	..
	Pattern designer	1,099	..	241	..
	Other scientific persons	680	39	44	3
	Sculptor	546	..	66	..
	Painter (artist)	4,333	723	304	130
	Musician (not teacher)	6,617	1,305	1,231	313
	Actor	1,238	702	73	189
	Photographic artist	2,092	..	274	..
	Others connected with fine arts	34	174	2	52
	„ „ music	134	..	36	..
		22,923	3,123	2,845	692
64	**Local Government and Police—**				
	Parish clerk	2,122	..	18	..
	Union, district, and parish officer	6,009	1,487	124	20
	Officer of local board	351	..	10	..
	Other county and local officers	2,031	18	87	..
	Police	21,811	..	127	..
	Pew opener	..	747	..	5
	Officer of charitable institution	..	954	..	31
	Others engaged in boarding and lodging in lunatic asylums, &c.	1,531	677	83	28
		33,855	3,883	449	84
65	**Occupations (secondary) insufficiently defined—**				
	Shopman	1,501	3,027	2,049	1,493

TABLE III.—*Continued.*

	Age 20 years and upwards.		Age under 20 years.	
	Males.	Females.	Males.	Females.
UNCLASSIFIED.				
(*a*) Occupation indefinitely stated—				
Labourer (branch undefined)	258,939	2,658	47,605	681
Apprentice	145	..	2,439	..
Other indefinite occupations	15,247	2,598	2,976	2,823
	274,331	5,256	53,020	3,504
(*b*) Occupation domestic—				
Wife	..	2,629,809	..	20,287
Widow	..	269,073	..	69
	..	2,898,882	..	20,356
(*c*) Without occupation, independent—				
Gentleman, independent	12,156	27,034	251	386
Annuitant	10,383	59,607	80	402
	22,539	86,641	331	788
(*d*) Without occupation, dependent—				
Dependent on relatives	1,120	2,943	28	14
Son, grandson, brother, nephew ..	8,426	246,874	1,701,969	2,032,383
Scholar under tuition	3,862	1,673	1,548,876	1,595,637
	13,408	251,490	3,250,873	3,628,034
(*e*) No return as to occupation—				
Persons living on alms	1,160	9,646	9	20
Paupers	8,050	32,087	1,898	1,934
Others supported from voluntary sources and rates	3,698	1,295	28	43
Lunatics	1,927	5,966	412	336
Prisoners	193	1,112	951	426
Inmates of refuges, &c.	..	270	..	414
Vagrants, beggars, &c.....	609	344	127	85
Gipsies	224	207	158	149
Visitors	2,747	28,396	746	7,999
Others (no return).....	45,309	58,893	2,640	4,160
	63,907	138,216	6,969	15,686

TABLE IV.—PRIMARY AND SECONDARY WORKERS.

Ratios per cent. of Adult Male Inhabitants.

Registration County.	Primary Classes.	Secondary Classes.	Unclassified.			
			Occupation indefinite.	Independent.	Dependent.	No return.
Northumberland	58·2	34·5	5·7	·2	·1	1·2
Durham	62·8	28·8	6·9	·1	·2	1·1
York, East Riding	54·9	39·1	4·6	·3	·2	·9
„ West Riding	65·0	30·8	3·0	·2	·1	·9
Lancaster	59·2	34·1	5·3	·2	·2	1·0
Chester	58·3	34·3	6·1	·3	·2	·9
Stafford	62·4	29·2	6·9	·2	·2	1·0
Warwick	55·6	37·2	5·5	·3	·2	1·2
Worcester	59·0	33·5	5·8	·3	·2	1·2
Salop	61·7	31·4	5·3	·3	·1	1·1
Hereford	59·2	31·9	7·2	·3	·3	1·1
Gloucester	47 6	41·7	8·3	·6	·3	1·5
Somerset	55·3	36·7	5·7	·6	·3	1·4
London	33·5	57·5	6·2	·9	·4	1·5
Surrey (extra Metrop.)	53·8	38 7	4·8	·9	·3	1·5
Kent „ „	60·2	32·7	5·0	·6	·3	1·3
Devon	58·8	34·4	4·8	·6	·1	1·2
England and Wales	56·1	36 8	5·2	·4	·3	1 2

TABLE V.—PRIMARY WORKERS SUBDIVIDED UNDER CLASSES & ORDERS.

Ratios per cent. of Adult Male Inhabitants.

Registration County.	Ord. 1.	Ord. 2.	Ord. 3.	Ord. 4 Ord. 5 C'mercial.		Ord. 6 Ord. 7 Ord. 8 Manufacturing.			Ord. 9 Ord. 10 Govt. S'vice.		Ord. 11.
	Agricul-ture.	Fishing.	Mining.	Com-merce.	Navi-gation.	Textile.	Metallic.	Other.	In. Admi-nistration	Army, Navy, &c.	Occasional & insufficiently defined.
Northumberland	18·8	·9	12·3	2·1	6·3	·4	7·1	8·1	·4	·6	1·3
Durham	10·1	·2	21·2	1·5	8·0	·5	9·1	10·6	·2	·3	1·2
York, East Riding	29·7	·7	·2	3·1	5·9	1·0	3·5	8·2	·7	1·3	·7
„ West Riding	14·4	·0	6·9	1·9	·3	22·4	11·7	5·4	·2	·4	1·3
Lancaster	9·4	·1	5·3	3·7	3·8	20·8	7·3	6·5	·3	·7	1·3
Chester	24·0	·1	3·7	2·8	2·1	13·2	4·4	6·0	·3	·6	1·2
Stafford	13·8	·0	15·3	1·3	·1	9	17·8	12·1	·2	·3	·6
Warwick	17·0	·0	1·3	2·1	·1	4.4	20·8	8·4	·2	·8	·6
Worcester	25·2	·0	3·6	2·1	·1	2·2	15·5	8·7	·3	·5	·8
Salop	40·2	·0	7·9	1·1	·1	·4	4·3	5·2	·3	·4	1·9
Hereford	47·7	·1	·8	1·1	·1	·1	·9	4·6	·3	·5	3·0
Gloucester	25·6	·1	2·5	2·5	2·2	2·4	2·7	7·2	·5	1·1	·6
Somerset	36·7	·1	4·1	1·2	·8	1·6	1·5	6·7	·4	1·1	1·0
London	1·8	·0	.2	5·2	3·6	1·5	5·5	10·8	1·4	3·1	·5
Surrey (extra Metrop.)	27·6	·0	·2	2·3	·1	·5	·8	4·8	·9	15·7	·7
Kent „ „	30·9	·6	·7	1·1	3·2	·2	1 2	6·2	·8	14·2	·9
Devon	31·3	·9	2·7	1·2	3·1	·7	1·3	6·5	·7	9·8	·6
England and Wales	23·2	·3	5·2	2·3	2·3	6·1	5·9	7·0	·5	2·4	·9

TABLE VI.—SECONDARY WORKERS SUBDIVIDED UNDER CLASSES AND ORDERS.

Ratios per cent. of Adult Male Inhabitants.

Registration County.	Ord. 12 Trading. Dress.	Ord. 13 Trading. Food.	Ord. 14 Trading. Houses.	Ord. 15 Trading. Others.	Ord. 16 Inland Conveyance.	Ord. 17 Attendants.	Ord. 18 Professional Men.	Ord. 19 Local Government	Ord. 20 Insufficiently defined.
Northumberland	6·4	4·9	8·0	3·2	8·2	1·3	2·0	·5	·0
Durham	4·8	4·3	6·6	2·5	7·7	·8	1·7	·4	·0
York (East Riding)	7·2	6·8	7·5	4·8	7·7	1·9	2·6	·6	·0
York (West Riding)	5·6	4·9	7·2	3·3	6·5	1·1	1·7	·4	·0
Lancaster	5·4	5·5	7·6	3·7	8·3	1·1	1·8	·6	·0
Chester	6·1	5·3	7·2	3·0	8·4	1·7	2·1	·5	·0
Stafford	5·6	5·0	5·4	2·8	7·1	1·3	1·5	·4	·0
Warwick	6·4	6·0	7·6	5·1	7·6	1·8	2·1	·6	·0
Worcester	5·3	5·2	7·2	3·5	7·3	2·0	2·4	·6	·0
Salop	5·9	4·6	6·2	2·3	7·1	2·6	2·2	·4	·0
Hereford	5·2	3·8	9·3	2·3	6·0	2·4	2·3	·6	·0
Gloucester	6·9	6·8	9·6	4·5	7·5	2·5	3·2	·8	·0
Somerset	5·9	6·1	9·4	3·5	5·9	2·2	3·0	·7	·0
London	8·7	9·3	10·6	8·7	11·1	3·1	4·7	1·2	·1
Surrey (extra Metrop.) ..	4·0	6·5	9·6	3·0	6·4	5·0	3·4	·8	·0
Kent " " ..	4·5	6·6	7·3	2·8	5·8	2·6	2·3	·7	·0
Devon	6·2	5·2	9·4	3·0	5·5	1·8	2·6	·6	·0
England and Wales	6·2	6·0	7·9	4·0	7·4	2·1	2·5	·7	·0

ON POPULATION STATISTICS.

PART II.

By Thomas A. Welton.

READ 11TH MARCH, 1869.

IN a previous paper I have shewn that the English people is divisible into two sections, engaged in primary and secondary occupations respectively, the first dependent in the main on the natural or acquired resources of the country, and the latter on the daily wants of the community—one great section of the people being consequently distributed diversely according as agriculture, commerce, manufactures, or mines afford employment—the other with greater regularity, according as the means of the population or their habits encourage its extension. The secondary classes, it was further shewn, are usually numerous in towns, especially such towns as are ancient or well-established markets, or watering places. They are much less numerous in merely manufacturing places, and fewest in rural districts. It may be added that those rural districts which are nearest to great marts are apt to contain lower proportions of the secondary classes than similar districts in more remote situations.

From these facts it was inferred that the boundaries of districts, the population statistics of which are intended to be brought into comparison, should be adjusted with especial reference to the situation of the principal market within them. That market should be at an easy distance from every portion of the district, and should certainly not be placed at one of its extremities, as Birmingham is at the extremity of War-

wickshire. County boundaries being often inappropriate, others must be selected, and it is best that some great market should form the centre of each division.

The next question is as to the approximate radius of the circle to be drawn around the centre which may have been selected.

In the case of London, a circuit of considerable extent must be chosen, in order to embrace not merely the area of its immediate influence as a neighbouring market, but that of its wider power in draining, as it were, the support from other places, and forbidding the existence of a rival city. The nearest great centres are at a distance of above a hundred miles; and allowing to each of these, Bristol, Birmingham, and Norwich, a district proportionately larger than that assigned to London, we have still a radius of about seventy-five miles within which the metropolis is supreme, being only surrounded at a respectful distance by stars of lesser magnitude, such as Oxford, Cambridge, and Ipswich. Places like Brighton and Southampton are not rivals, they are rather appendages of London.

Proceeding empirically in the same manner, various circles may be formed, and the country intervening between such districts will in general be found to be provided with markets, ancient though small, and sufficient for local wants. I append a list of divisions which may be provisionally adopted. (Appendix A.)

It will be seen that these nineteen divisions have some of them what may be termed "double centres." The ninth includes Nottingham, Derby, and Leicester, and the thirteenth comprises Liverpool, Manchester, and Preston, with many other places. It is, however, abundantly clear, that whether the markets which supply a district be few or many matters but little, so long as the boundary of the district is fairly drawn as between those markets and external ones. The

statistical results for the district are in either case legitimate, and conclusions may fairly be drawn from them with respect to the condition, upon the whole, of the inhabitants.

After having settled with sufficient precision the boundary of a district, we have next to notice the density of its population; the magnitude of its towns; the increase of its population in town and country (whether by an excess of births over deaths, or by immigration); the character of its primary industries; the manners of its inhabitants, as indicated by the proportional numbers of the secondary classes; the influence of the primary and secondary industries and of other causes in promoting immigration or emigration; the ages of the people, as affected by births, deaths, and migration, past and present; the ebb and flow of apparent prosperity in past times, as indicated by the record of marriages; the fecundity of those marriages, as shewn by the proportion of births to married women at the childbearing ages; and lastly the varying rates of mortality in town and country at different ages from several causes and in successive periods. I shall proceed to mention some of the circumstances which should be borne in mind in making the necessary calculations.

In the first place, we must avoid comparing the statistics of suburbs with those of towns, or those of country districts with either, except indeed with reference to those features which they not only possess in common, but might reasonably be expected to possess in equal degrees.

In restricting our endeavours to the comparison of town with town, suburb with suburb, or village with village, we are embarrassed by the difficulty which surrounds the application of these terms. The most experienced persons might well find it hard to determine in any given instance where the true town, the centre of commercial and industrial activity, ends, and the suburb, or in other words the surrounding aggregation of homes, begins. And since existing boundaries,

established for reasons quite unconnected with such considerations, (and even if temporarily applicable to philosophical subdivision, not likely to continue so,) will probably remain the sole bases of authentic enumerations, there would be little utility in such an investigation even if it could be successfully carried out.

Villages, again, are very far from easy of definition; for the rural and the manufacturing village differ far more in circumstances than in magnitude, and it can only be arbitrarily settled where, in the long array of populations of different densities and amounts, the village ceases and the town begins.

The definition of a town laid down in this Society's Journal, Vol. IX, viz.: a minimum population of 2,000 persons with a minimum density of 7,111 persons per square mile, was not arrived at without careful consideration of the subject. Yet I felt, even then, that there might be a more satisfactory definition than this, although none occurred to me which were not open to grave objections. A more extended research into the statistics of occupations than I had then made has led me to the conclusion that any place long reputed a town, and inhabited by a population devoted in a great measure to local trade and traffic, may well be deemed such, even though its population should number far less than 2,000 persons, provided it be of a due density; and that although every place exceeding the stated population and of the defined density must for convenience sake be classed as a town, yet a broad distinction should be drawn between such of these as are devoted to primary occupations, and those which are supported by the trade requirements of surrounding places, the latter being more truly towns than the former.

Now that these introductory remarks have been made, it will be convenient to review the several descriptions of population statistics in their order (except occupation statistics, of which perhaps enough has been said), and to commence with

Density of Population.

The density of population in such a district as I have suggested* is fairly comparable with that of any district of similar character. The comparison will not always be equally valid between two provinces or two kingdoms, yet in many cases provinces and kingdoms are so far independent of their neighbours as to be in effect districts (or aggregations of districts) of the right character. The larger the tract of country, the less its statistics are liable to be affected by any irregularities in its outline. But a large river is always a bad boundary. Its natural tendency is to be a centre and highway of intercourse; it ought to be anything rather than the border of a scientific division, unless indeed in the case of estuaries wide enough to constitute a real barrier between the populations on either side. A mountain range, or even a hilly district, sparsely inhabited, forms a good boundary. It is the same with any desert region. Those on either side look rather to the centres of intercourse behind them than to each other for their commercial relations. Railways alone tend to bridge over such tracts, and even railways alter but slowly the habits of mankind; they are quite as often the means of facilitating and increasing the use of old routes, as of causing them to be discarded for new ones.

The French frontier province of Alsace furnishes an instance of a boundary which, for the reason mentioned, is not a convenient one for statistical purposes. The natural course of its traffic is along the valley of the Rhine; its population is still distinguished strikingly from that of the interior of France. But Alsace is too small a part of the French empire to affect materially its statistical averages. And political causes may so far influence the course of Alsatian trade, as to connect Strasbourg more intimately with Paris than with

* See Appendix A.

the opposite bank of the Rhine. Nothing of that kind can happen without turning commerce to some extent out of its proper course; and hence the utility of the German Zolverein, and of all similar expedients for lessening the number of artificial hindrances to trade. But so long as such hindrances exist, they must be treated as scientific facts, and acknowledged as limiting the circles of influence of the markets which lie near them.

On the other hand, the averages of density (and of many other orders of statistical facts) in large kingdoms cover a world of variations not seldom of the greatest consequence. It is important, therefore, to subdivide large countries, with due regard to the situations of their cities, their mountains, roads, and rivers, and to the modes of life of their inhabitants, so that without descending to minute details, the principal variations at least may be brought to light. It is convenient, I think, for this purpose that divisions containing from one to three millions of inhabitants should be chosen; and this will usually be compatible with an approach towards uniformity in extent, which is also desirable.*

The average density of population being known, its distribution is next a matter of curiosity: the number and situation of the towns, and the magnitude of each, and the density of population in the open country, whether in the mountainous parts or in the plains and valleys.

Now, as to the towns, it is never safe to adopt official returns in the gross. With the aid of maps, and of detailed census tables, it may often be ascertained that the true town is greater or less than represented. In this country, many boroughs have extravagantly wide boundaries, and without local knowledge one cannot be certain that such is not more or less the case in foreign countries. It is true, foreign towns

* I have illustrated this subject somewhat in my paper on French Population Statistics in the "Statistical Journal."

are oftener walled than English places, and the chances are rather that some suburb will have grown up outside the recognised boundary, than that an excessively wide area has been included. In either case, topographical knowledge is equally desirable.

It is best to adopt such a boundary as will include every suburb. If, in doing this, we are forced to take in a greater area than we desire, it does not usually matter much, for the surrounding country is commonly but thinly peopled. The inconvenience is therefore confined to the question of density *within* the town, which of course would be materially affected. But in the absence of scientific boundaries constantly varied to suit the growth of towns, no ratios of density can be had in relation to them which possess the smallest value, except indeed those of the central or fully covered portions of their respective areas.

Where the neighbouring parishes are extensive, there is great difficulty in determining, from the general Census Tables, the population of a *small* town. In such cases, it is well that a boundary is fixed by the local officers for the occasion of the Census, as otherwise we could have nothing reliable. Todmorden is stated in the last Census to have 11,797 inhabitants within the limits of the Local Government Act, but the Registrar considers that the town proper would be fairly represented by 1318 inhabited houses and 6458 persons.

Towns, then, must be regarded as accounting for part of the average density of the district in which they stand, and not as having any density of their own worthy of study, except so far as the imperfect data obtainable may be interesting in a social and sanitary point of view. Suburbs should be held to include not much more than the homes of those who work in the town; if there be a separate nucleus near, it constitutes a separate town, to be dealt with apart if possible,

just as Woolwich should be treated as a town by itself, and not an extension of London.

The country densities being more significant, are fit subjects for classification and study; but the treatment of these having been largely illustrated in the Papers on Population in Lancashire and Cheshire, it is not necessary to enter into further explanations in this place.

The limit of subdivision below which the observed variations of density become unworthy of attention, because liable to be affected to too great an extent by accidents and circumstances not permanent in their operation, cannot easily be fixed; however, many localities particularized in the Census fall below such a limit, and the Irish Census is sadly marred by the exceeding smallness of the subdivisions adopted. Rural populations of 1000 persons may on the other hand be considered quite large enough to deserve separate treatment, for it is certain that in districts much exceeding that population, variations of a significant character are apt to be lost sight of, or are inadequately indicated by the mean result. Perhaps a range of 500 to 1500 inhabitants would be the most desirable magnitude for rural districts of the smallest size referred to in statistical investigations.

Actual increase of Population.

This subject is divisible into two parts, viz.:—actual increase as observed at successive Censuses, and natural increase by the excess of Births over Deaths. The former is what I now refer to.

The increase of population within a county or other division may be as inaccurately represented as the absolute density, supposing a town of importance to lie on its boundary line. The densely-peopled nucleus being in one county, and the rapidly-increasing suburbs extending into the next, the first population is represented as tending to increase more slowly, the

other more rapidly, than is actually the case. Not but that the fact is true enough as represented by the tables; it is the inference, for which alone the fact is interesting, that is false.

The same districts which approximately represent the areas of activity of great centres of intercourse, will be found to be free from the objection just stated. And as to the ratios which may properly be deduced from their statistics of increase, those for entire towns (including suburbs) and for country districts are the most important. As to these, enough has perhaps been said in the Papers on Population in Lancashire and Cheshire. But there is still a matter of curiosity as to great cities—on which side is their growth most rapid? and is any part of their fully-built nucleus becoming more or less densely peopled? This is all we can learn, for the rates of increase in particular suburbs are of no statistical value for general purposes.

By way of illustration, such a calculation with reference to London is given in Appendix B.

Casual denizens, such as gipsies, persons assembled at village feasts, and men engaged in railway construction, should be left out of the account in calculating actual increase of population, especially when we are dealing with small districts.

Natural Increase and Migration.

The actual increase being once ascertained, the question next arises, whence has it come?

The tables of Births and Deaths shew with tolerable accuracy the increase arising from natural causes within each Registration District. Many births, however, escape registration, and according to the opinion of Mr. Hammick,* these occur chiefly in London and the large towns, the proportion of Births within the whole kingdom which are omitted in the returns being not less than 5 or 6 per cent.†

* Companion to the British Almanack for 1862.

† I shall endeavour to shew cause for thinking this estimate excessive. See Appendix C.

On comparing the natural increase with that ascertained at the periods of the Censuses, it will generally be found that, whilst large towns and industrial populations increase faster than they would naturally do, by the help of immigration, country places commonly lose a portion of their natural increase through the emigration of part of their inhabitants. The effect of migrations within this country is very great, and appears to have increased much since the development of railways, so that the operation of immigration into England from Ireland, Scotland, and the Continent, and of emigration to those countries and to places more remote, however important it may be, is to a great extent obscured by changes of a more local character.

On the whole, it may safely be assumed that immigrants, whether they come from abroad or from the neighbouring country, are generally of the age and sex required in the places where they gather, either to recruit the numbers of workpeople of the ordinary description employed there, or for the domestic service of the inhabitants.

As the immigrants are in effect the complement necessary to make up that increase to which each centre of employment may be entitled, having regard to the counter attractions existing in other places, their absolute number depends not a little upon the rates of mortality which may prevail in different cities. If, for example, the deaths in Liverpool and Manchester should fall to two-thirds of the births, either the rate of increase must be sensibly accelerated, or a large number of persons who otherwise would come to settle there, will go to other places. It is difficult to foresee which consequence would result in the event supposed; but (all other circumstances remaining unaltered) it is likely that an intermediate and somewhat augmented rate of increase would prevail.

The tables of birthplaces afford considerable aid towards ascertaining the sources from whence the increase of particular

places has been derived. This has been illustrated in the Papers on the Population of Lancashire and Cheshire (*Transactions*, First Series, vol. xi,) and an improvement in the form of the last Census enables me to prove the truth of what was then asserted, viz., that Lancashire has retained among its permanent inhabitants a larger proportion of those born within its bounds than any other county: the proportion actually being in 1861—

Lancashire	90·96	per cent.
Yorkshire	88·03	„
Wales	87·00	„
Cornwall	86·92	„
Durham	84·32	„
Stafford	81·92	„

the other counties retaining less than 80 per cent. of those born within their bounds, and remaining in England.

On the other hand, Lancashire has not added so large a number of strangers to her population, in proportion to its total amount, as several other counties; thus, to 100 inhabitants in

Surrey	52·27	are natives	47·73	are strangers.
Middlesex	59·27	„	40·73	„
Monmouth	62·76	„	37·24	„
Durham	67·58	„	32·42	„
Chester	68·18	„	31·82	„
Kent	68·95	„	31·05	„
Warwick	69·88	„	30·12	„
Southampton	71·03	„	28·97	„
Berks	71·40	„	28·60	„
Worcester	72·42	„	27·58	„
Lancaster	73·63	„	26·37	„

the remaining counties containing lower proportions of strangers.

My calculation was, for the year 1851—

Of 10,000 born in Lancashire, 9,161 were living there.
„ living „ 7,456 „ born „

The true proportions for 1861 are in each case a little lower.

The fact appears to be that Lancashire, having retained

a very large proportion of her native population, has also received a considerable proportion of immigrants compared with the total number of natives, but through the natives remaining (as before remarked) at home, fewer strangers could find room, and they do not bear so large a proportion within the county as in others where population has been more mobile. The metropolis and the counties of Durham and Monmouth have attracted much greater proportions of strangers.

	Natives.		Strangers.	
	Total in England.	Remaining at home.	In the County.	Total Population.
Lancashire	1,966,038	1,788,596	640,844	2,429,440
Cheshire.....	467,383	344,644	160,784	505,428
Durham.....	407,552	343,686	164,980	508,666
Middlesex	1,683,640	1,307,648	898,837	2,206,485
Surrey	615,698	437,317	396,776	831,093
Berks...	196,223	125,853	50,403	176,256
Lancashire and Cheshire	2,433,421	2,264,618	670,250	2,934,868
Middlesex and Surrey...	2,299,338	1,979,944	1,057,634	3,037,578

In comparing such ratios as have been quoted above, it should be borne in mind that the larger the county the more the local movements of population are lost sight of. Lancashire and Cheshire, taken together, shew 670,250 strangers; taken separately, 801,628 strangers; the difference consisting of natives of Cheshire residing in Lancashire, and *vice versa*. If Lancashire were divided into six equal parts, each would be as populous as an ordinary county, and in most of them the proportion of natives resident would be lower, and that of strangers higher, than in Lancashire as a whole.

A mode of estimating the attraction which has been exercised, free from the objection just mentioned, is simply to compare the number of natives of Lancashire (or any other county) with the ascertained population; thus Lancashire and Cheshire shew a nett gain exceeding 500,000, which no adjustment of boundaries can vary; whilst Middlesex and Surrey shew a gain of 738,000, and the other counties for the most part exhibit losses.

Ages, Births, &c.

The ages are largely influenced by the proportionate numbers of births and deaths, and exert a reciprocal influence over those numbers. Thus births depend on the number of women at the childbearing age, as well as upon the tendency to marry, and deaths on the proportions of infants and aged persons, as well as upon the degree of salubrity. But migration is another most powerful disturbing agency, by means of which in some places many of the young adults are removed, leaving a large proportion of aged people and, it may be, a diminished ratio of children; in other places the adult population and the birth-rate are alike largely increased, causing the number of the aged to bear a very small proportion to the whole.

It is matter of observation that the births in rural districts, from which emigration is going on, are not so numerous in proportion to population as in those districts which receive immigrants. Yet in general they exceed the deaths by fully 50 per cent.; and if emigration from such rural districts were stopped, it is probable that, instead of an increased number of marriages and births, the contrary result would ensue, from the impossibility of finding employment for a rapidly increasing population. I think, therefore, that whilst the removal of young people to manufacturing towns tends to increase the birth-rate in such towns, it does not usually tend to decrease the number of births in the places from whence they come.

The differing rates of mortality, acting through long terms of years, help to exaggerate the disproportion between the numbers of the aged in town and country. A stationary country population subject to a low rate of mortality would include a large relative number of old people even if the young did not emigrate,—and on the other hand, the high

mortality in many increasing towns tends to diminish rapidly the small number of aged inhabitants.

Children under ten years of age are not employed to any great extent in town work, and their numbers are not much affected by migrations. If, relatively to the number of children, there are many adults and few aged persons, we have strong evidence of immigration. If there are few adults and many aged persons the contrary inference may be adopted. If there be a low birth-rate, or a heavy infantile mortality, the measure employed is so far faulty as to give an exaggerated idea of the numbers of both adults and aged persons. In the contrary case the ratios would be diminished, and the adults, but still more probably the aged, might appear to be fewer than usual. Sometimes numerous births, attended with a large mortality, leave a population under ten years of age no larger than might have arisen from a much lower proportion of births accompanied by a moderate death rate.

The measure suggested has the merit of shewing very strikingly the inequalities in the component parts of different populations.* It attracts special attention to places where the immigration of young unmarried persons has largely affected population, thus :—

Age.	England and Wales.		Kensington.		London City.	
	Males.	Females.	Males.	Females.	Males.	Females.
0—10	2,527,867	2,516,981	19,724	20,209	3,759	3,929
10—25	2,878,029	2,989,282	20,863	32,960	8,139	7,727
25—40	1,986,257	2,194,227	17,355	29,521	4,643	5,017
40—55	1,396,564	1,474,966	11,819	16,391	3,248	3,942
55 & up.	987,542	1,114,509	6,621	10,487	1,869	2,682

Ratios obtained by treating the whole population as a measure of its parts, shew the irregularities with less distinctness :

* See the Papers on Population of Lancashire and Cheshire, and also Appendix D.

where the numbers at one age are increased, the ratio is increased, but by an equivalent deduction from the other ratios. This measure is in fact not more reliable than the other, and the results obtained by its means are less suggestive.

The returns of ages are to some extent inaccurate. On this subject a paper by Dr. Farr, in the *Statistical Journal*, (vol. xxviii,) is worthy of attentive perusal. He there estimates the error as respects children under five years of age, thus :—

Age.	Enumerated in 1861.	Estimated from Births and Deaths.
0 and under 1	593,721	596,063
1 „ 2	543,040	565,965
2 „ 3	535,981	524,853
3 „ 4	516,296	498,092
4 „ 5	511,744	486,968
Totals	2,700,782	2,671,941

But he does not take into account unregistered births, which he had estimated in the Census Report (page 6) at 36,950 per annum in the ten years 1851-60, nor unregistered deaths, nor migrations. If all these had been considered, probably his estimates would have been somewhat increased. But, as he himself observes, "I have taken as the basis of our cal- "culated table 690,227 (births,) whereas the births registered "in the year ending 31st March, 1861, were only 673,801. "This raises the estimated number in the first year, and is in "itself a set-off against unregistered births." Then his calculation of births not registered seems excessive, for he elsewhere proceeds to shew its basis, thus :—

Excess of registered births over deaths, 1851-61		2,267,518
Excess of population enumerated, 1861 over 1851.....		2,174,327
Emigrants from England and Wales, 1851-61, estimated variously at	640,316 or	568,027
Number of those who must have immigrated, plus the number of unregistered births, (in excess of unregistered deaths,) say.....	547,125 or	474,836
Number of persons born in Scotland, Ireland, and foreign parts, enumerated in 1851.....		761,953
„ in 1861.....		946,172
Increase of Scotch, Irish and foreigners		184,219

Then deducting from 547,125 this increase of strangers (184,219,) the residue, 362,906, is ascribed to non-registration of births.

It has apparently been overlooked by Dr. Farr, that in order to *maintain* a population of 761,953 strangers, a constant immigration must be going on, *equal to the number of deaths* amongst that population. Assuming the deaths among our increasing population of strangers at 15,000 per annum, 150,000 must be at once struck off the supposed number of unregistered births, reducing it to 212,906 in the ten years. And if it be considered that the strangers are two-thirds of them Irish, the mortality suggested will not appear extravagant.

The ages of *foreigners* (being natives of European states) are given, and appear to have been in 1861—

Age.	Males.	Females.
0—20.....	8,544	4,620
20—40.....	31,499	12,801
40—60.....	8,994	4,054
60—80.....	1,679	1,024
80 and upwards	128	91
	50,844	22,590

but the ages of Irish and Scotch inhabitants of this country are not separately shewn.

The number of emigrants of English birth who return to this country annually is not known; but, as observed by Dr. Farr, that number would form a further deduction from the supposed number of births annually unregistered, whilst the number of unregistered deaths (chiefly of infants whose births had not been recorded) would have to be added. These last, however, might as well be omitted from both sides of the account, when it would appear that some 20,000 births at most (say about three per cent.) of children who survived the first few weeks of infancy, were annually unregistered in 18 1-60.

In arguing that the number of births which escape regis-

tration has diminished, Dr. Farr relies simply on the fact that many more births were recorded in 1856-61 than in the preceding five years. This seems inconclusive, except we assume that the number of births could not naturally be augmented so fast as (according to the registers) it appeared to be, during those years. I am reluctant to accept such an assumption, without strong evidence of its truth, and would rather rely on Dr. Farr's bare opinion, supported as it is by the probability that any system of registration would grow more and more efficient with the diffusion of enlightenment.

In the Census Report for 1851 (page xxiv) the Commissioners remark that, taking into consideration the recorded numbers of females at different ages in 1841 and 1851, it is probable that some 35,000 ladies, more or less, who have entered themselves as aged twenty to forty, really belong to the higher ages forty to sixty. But such an estimate can only be regarded as a wide approximation. Dr. Farr, in his paper already referred to, judiciously observes that "by "carrying on the calculation to fifteen or twenty years of age, "if it is based on the registered births, the Census shews "much larger numbers than the calculation leads us to expect; "and these numbers can only be accounted for by immigration "of the Irish chiefly, and by unrecorded births in the earlier "years of registration. I may state, however, that the data "upon which these calculations are based are either difficult "of verification or *conjectural;* and I do not conceive for a "moment that any results deducible from them justify us in "setting aside the counted numbers of the children, whose "enumeration presented little or no difficulty at the Census."

Dr. Farr suggests that many Irish may have returned themselves as English, and that this may have happened in 1861 in a greater number of cases than in 1851. If so, the immigration from that country must necessarily have been so much the greater within the ten years, and the estimate of unregistered births would have to be further diminished.

In abatement of the effect of occupations in disturbing the proportions of population at different ages, it may happen that where the demand for youthful labourers (for some special industry) is greatest, adults enter into other employments in larger proportions than ordinary, thereby accommodating themselves to local circumstances. The inducement of unusually high wages also causes a number of young persons greater than usual, in proportion to the whole, to engage in industrial pursuits.

For example:—

	Under 15.	Males aged 15-20.	20 & upwards.
Lancashire—			
Agricultural labourer	1,084	2,279	27,639
Cotton manufacturer	27,024	28,583	97,883
Son, grandson, &c., not otherwise described	189,693	3,369	759
Scholar (so described)	184,574	3,250	197
Total population	438,100	117,529	634,851
Kent (extra metropolitan)—			
Agricultural labourer	3,705	5,454	33,168
Cotton manufacturer	...	...	10
Son, grandson, &c., not otherwise described	45,026	1,258	316
Scholar (so described)	44,065	1,085	71
Total population	97,072	27,438	150,057

The proportion of boys compared with men engaged in agricultural labour is much lower in Lancashire than in Kent. The proportion of boys engaged in some industry or other is, however, higher in Lancashire.

	Under 15.	Females aged 15-20.	20 & upwards.
Lancashire—			
General servant	5,703	17,957	40,345
Cotton manufacturer	33,114	53,457	116,130
Wife, widow	...	2,084	341,605
Children, relatives, scholars	387,067	23,003	21,327
Total population	437,837	125,697	711,352
Kent (extra metropolitan)—			
General servant	1,363	6,505	8,840
Cotton manufacturer	...	...	3
Wife, widow	...	677	82,293
Children, relatives, scholars	94,063	10,898	8,803
Total population	96,408	24,582	149,715

The proportion of girls compared with women engaged as general servants is much lower in Lancashire than in Kent. The proportion of girls engaged in some industry or other is considerably higher in Lancashire, less than twenty per cent. of those aged fifteen to twenty being there classed as "children, "relatives, and scholars" against more than forty per cent. in Kent.

The principal use of the Census of ages is to assist us in making a just calculation of death-rates. The very dissimilar proportions in different places of old, middle-aged, and young people naturally tell upon the average death-rates, which, therefore, indicate very imperfectly the relative salubrity of different places. And even the proportions of the entire population of a country at different ages may change very materially.

Thus in Denmark Proper :—

POPULATION.

Ages.	1801.	1834.	1840.	1845.	1850.
0—10	213,838	284,138	291,790	313,855	326,482
10—20	161,575	257,625	261,972	256,346	266,118
20—30	149,430	199,172	218,603	243,859	238,932
30—40	123,112	163,894	172,426	175,460	195,344
40—50	107,413	120,138	133,766	146,888	154,997
50—60	83,392	97,477	95,733	100,708	110,927
60—70	56,925	63,762	67,896	71,408	70,957
70—80	23,893	29,684	32,449	33,002	35,181
80—90	5,742	7,496	7,873	8,246	8,258
90 & upwards	360	411	519	555	551
Totals	925,680	1,223,797	1,283,027	1,350,327	1,407,747

In the eleven years 1834-45 the population aged ten to twenty decreased, but the numbers aged twenty to thirty shewed a remarkable increase. Those who were twenty to thirty years old in 1845 were born in 1815-25, a period during which there was an enormous increase of births in Denmark, as well as in several other European states.

Before quitting this part of the subject, a calculation as to

the increase of population in London may perhaps be acceptable.

The Population in 1851 being		2,362,236
And in 1861.....		2,803,989
The increase appears to have been ...		441,753
The Registered births were	864,563	
Add for omissions, 3 per cent.	25,937	
	890,500	
Deduct deaths.....	610,473	
Natural increase.....	280,027	

The remaining increase, namely 161,726, represents approximately the excess of immigration over emigration.

The number of persons born in London, but resident in other parts of England was—

In 1851 231,593
In 1861 319,916

If we suppose that the 231,593 required a constant annual migration of 4,500 persons from London to merely keep up their number (which is probably not an exaggerated estimate), then 45,000 plus 88,323, the actual increase, makes 133,323 persons who must have quitted London for the English counties;* and including emigration to Scotland, Ireland, the Colonies, and foreign parts, the number may well be raised to 150,000, or even, perhaps, 170,000. The immigrants, therefore, must have amounted to something between 311,726 and 331,726. This, be it recollected, should be the balance of strangers who arrive, after deducting those strangers who leave town.

The number of persons residing in London, but born elsewhere was—

In 1851 905,509
In 1861 1,062,812

* Partly, of course, for the "home counties" surrounding London.

Assuming the deaths among the 905,509 to be from 15,000 to 17,000 annually, we have an estimated net immigration of 307,000 to 327,000 strangers, which agrees well enough with the preceding calculation.

As the increasing numbers of Londoners in the country and country people in London must require an *increasing* number of recruits to replace the losses by death, the above calculations, which do not regard that circumstance, might be amended by increasing the estimated numbers of deaths; but as the figures are, after all, partly conjectural, strict accuracy need not be studied.*

Marriages and Civil Condition.

The principal source of error in relation to the statistics of marriages is the tendency which generally exists to marry at particular churches (usually the principal ones), rather than others. The population and numbers of marriages in Manchester, Salford, and Chorlton (with Barton) districts respectively were—

	Manchester.		Salford.		Chorlton & Barton.	
	Population.	Marriages.	Population.	Marriages.	Population.	Marriages.
In 1841...	192,403	3,677	70,224	34	103,423	525
In 1851...	228,433	4,910	87,523	270	155,426	722
In 1861...	243,988	4,419	105,335	632	208,617	904

but, of course, it is not to be imagined that in Manchester there were eighteen marriages to 1,000 persons, whilst there were six in Salford, and less than five in Chorlton.

This deprives of value any ratios except those derived from entire towns or wider districts.†

There is a tendency in different parts of the country to marry at different seasons of the year; in rural districts,

* In Appendix C I have, however, re-calculated the allowances for unregistered births and for deaths among strangers, and I believe the results there shewn to be substantially correct.

† The comparison of marriages registered in the *same* district, one year with another, is not totally unreliable, even if it happen that the district be one to which couples resort, since the tendency to do so would not suddenly vary to any great extent.

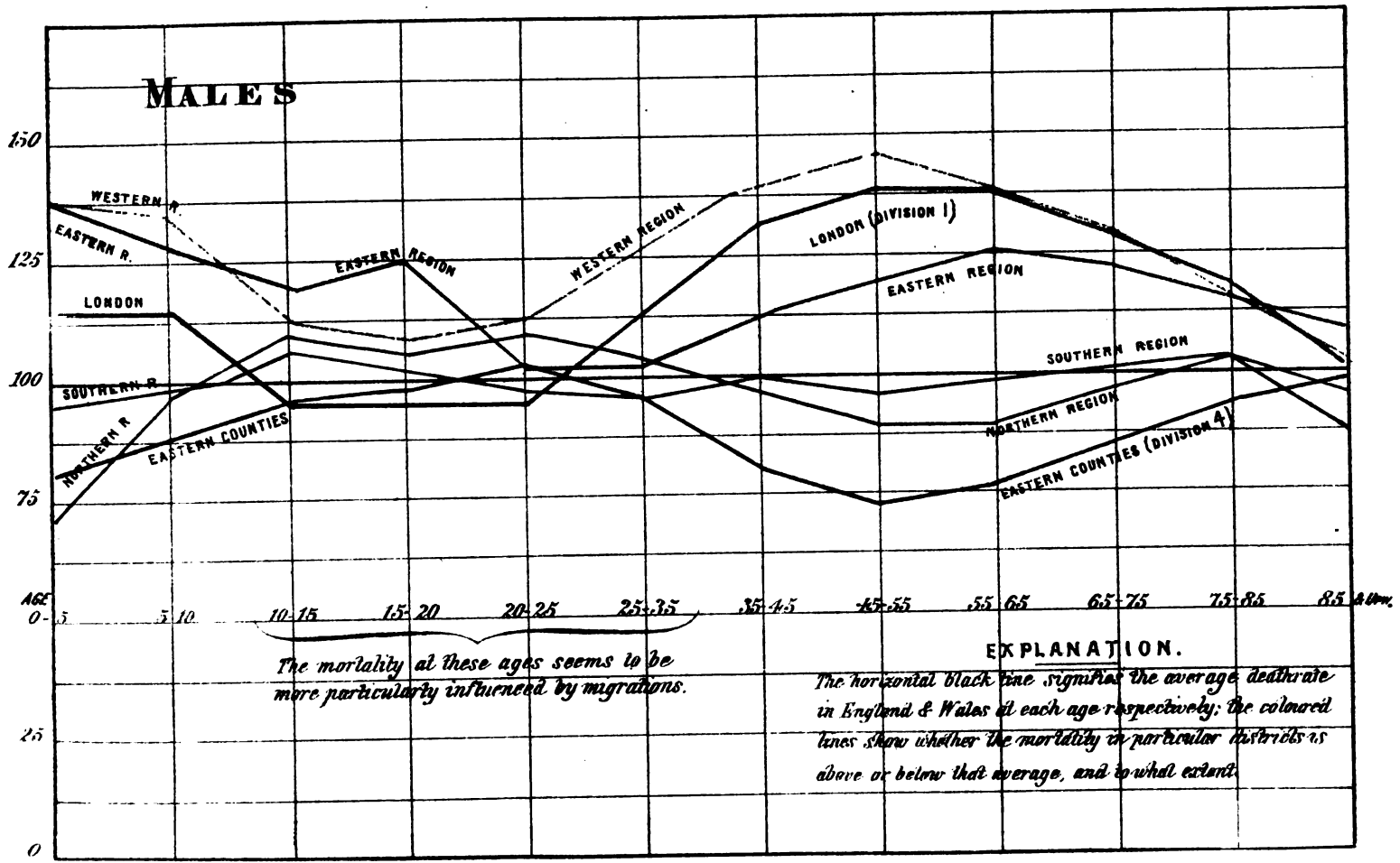
especially, the last quarter is distinguished by numerous marriages; but these inequalities are lost sight of when the total of the year is alone considered.

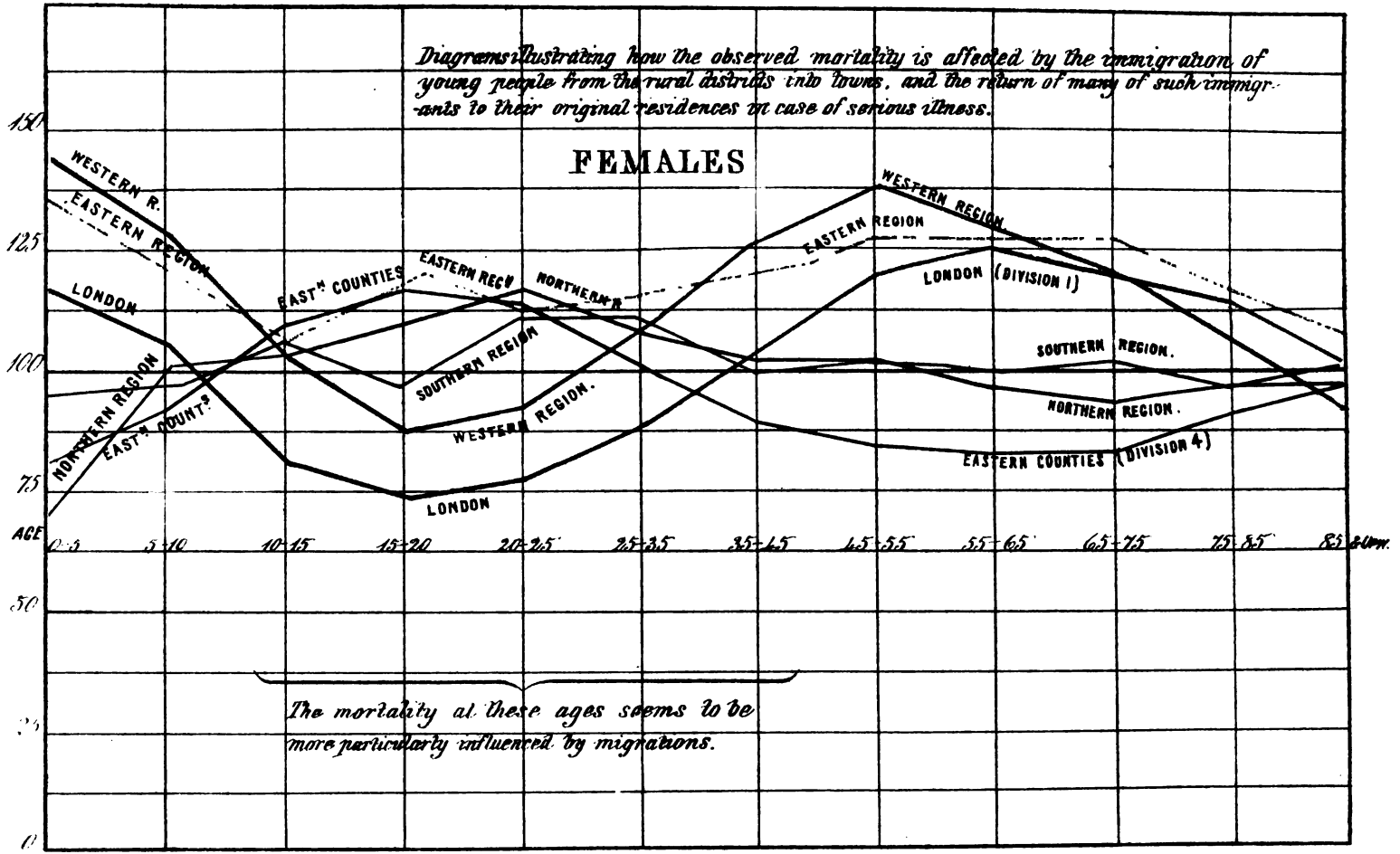
It is now possible to compare the numbers of marriages with those of unmarried and widowed persons at the marrying ages, and the numbers of legitimate births with those of married women under forty-five. The improvement in the form of the Census which admits of these comparisons was, perhaps, suggested by the Papers on the Population of Lancashire and Cheshire (*Transactions*, First Series, vol. xii).

The returns of civil condition are probably nearly correct, except that many women and some men not in the married state may have returned themselves as wives and husbands.

Mortality.

I have already noticed some of the circumstances which render average death-rates unreliable except as roughly indicating the rate of mortality in any given district. The unequal proportions of population at different ages, and the migrations of large numbers of young and healthy persons which have so much to do with that inequality, are by themselves enough to deprive such simple ratios of all pretence to accuracy. Then it is also true that some districts (usually parts of towns) contain such large numbers of inhabitants who live there, at a distance from their relatives, for the purpose of performing certain work, and who in general "go "home" in case of sickness, that no reliance whatsoever can be placed on their average death-rates. Such are London City and St. George, Hanover Square. Furthermore, the existence of large hospitals and asylums, and of workhouses, where many deaths occur, tends to destroy the value of local statistics of mortality. Deaths in the workhouse, indeed, may generally be deemed to be part of the mortality proper to the district in which the building stands; but as some


MALES
150
125
100
75
0
25
WESTERN R.
EASTERN R.
LONDON
SOUTHERN R.
NORTHERN R
EASTERN COUNTIES
EASTERN REGION
WESTERN REGION
LONDON (DIVISION 1)
EASTERN REGION
SOUTHERN REGION
NORTHERN REGION
EASTERN COUNTIES (DIVISION 4)
AGE
0-5
5-10
10-15
15-20
20-25
25-35
35-45
45-55
55-65
65-75
75-85
85 & upwards
The mortality at these ages seems to be more particularly influenced by migrations.
EXPLANATION.
The horizontal black line signifies the average deathrate in England & Wales at each age respectively: the coloured lines show whether the mortality in particular districts is above or below that average, and to what extent.


Diagrams illustrating how the observed mortality is affected by the immigration of young people from the rural districts into towns, and the return of many of such immigr-ants to their original residences in case of serious illness.
FEMALES
150
125
100
75
50
25
0
WESTERN R.
EASTERN REGION
LONDON
NORTHERN REGION
EAST.N COUNTS
EAST.N COUNTIES
EASTERN REGN
NORTHERN R
SOUTHERN REGION
WESTERN REGION.
LONDON
WESTERN REGION
EASTERN REGION
LONDON (DIVISION 1)
SOUTHERN REGION.
NORTHERN REGION.
EASTERN COUNTIES (DIVISION 4)
AGE
0-5
5-10
10-15
15-20
20-25
25-35
35-45
45-55
55-65
65-75
75-85
85 & upwds
The mortality at these ages seems to be more particularly influenced by migrations.

workhouses are situate beyond the limits of the district to which they appertain, these occasion an even greater disturbance of the death-rates than hospitals do, since the latter commonly draw a great part of their patients from neighbouring parishes.

By treating entire towns as units, and disregarding their subdivisions, the irregularities occasioned by workhouses and hospitals may to a great extent be got rid of, although county hospitals and lunatic asylums still occasion considerable disturbance of the death-rates in particular places. The fact, however, remains that towns contain immigrants in the prime of life, generally healthy persons from country places, and, therefore, subject to a comparatively low rate of mortality, and whose stay is moreover dependent in a great measure on their continuing in good health. Domestic servants in particular are apt to be numerous in towns, and are usually immigrants from some rural district, to which they return in case of sickness. In London (partly through this circumstance) the mortality among females aged ten to thirty-five appears to be much lower than the average of England and Wales.

AVERAGE ANNUAL RATE OF MORTALITY (per cent.) 1851—60.*

AGE.	ENGLAND & WALES.		LONDON.		S. E. COUNTIES.	
	Males.	Females.	Males.	Females.	Males.	Females.
0—5	7·243	6·274	8·311	7·295	5·487	4·669
5—	·851	·842	·970	·921	·720	·733
10—.....	·488	·506	·452	·415	·405	·506
15—.....	·669	·738	·625	·543	·610	·732
20—.....	·883	·853	·831	·648	·933	·885
25—.....	·957	·992	1·050	·875	1·037	·965
35—.....	1·248	1·215	1·629	1·281	1·230	1·147
45—.....	1·796	1·520	2·468	1·806	1·604	1·373
55—.....	3·085	2·701	4·243	3·327	2·673	2·440
65—.....	6·533	5·866	8·522	6·959	5·858	5·524
75—.....14·667		13·434	17·189	14·961	13·942	12·862
85 & upwards...31·008		28·956	31·441	28·892	30·787	29·332
All ages	2·305	2·132	2·570	2·182	2.022	1·889

* These figures are taken from the Supplement to the Twenty-fifth Annual Report of the Registrar General.

Let us compare the mortality in a few of the London districts :—

AVERAGE ANNUAL RATE OF MORTALITY (PER CENT.) 1851-60.

Among Males.

Age.	London City.	Kensington.	St. George, Hanover-sq.	Hackney.	Bethnal Green.	Whitechapel.	Poplar.
0—5	8·582	7·238	7·194	5·798	7·991	10·669	7·757
5	1·072	·794	·960	·746	·830	1·120	·933
10	·547	·453	·394	·470	·353	·534	·665
15	·442	·546	·344	·653	·513	·698	1·043
20	·594	·811	·552	1·032	·809	·888	1·093
25	1·015	1·003	·747	1·176	1·011	1·215	1·272
35	2·028	1·414	1·456	1·272	1·455	2·089	1·652
45	2·908	1·880	2·342	1·668	2·221	3·082	2·329
55	5·014	3·427	3·985	3·126	3·459	5·483	4·105
65	8·207	7·473	8·317	7·279	7·809	9·794	7·526
75	16·741	15·092	17·081	14·251	18·213	18·816	14·406
85 & upwards	31·773	29·878	43·701	34·656	27·669	30·418	42·761
All ages	2·367	2·281	2·137	2·118	2·457	3·017	2·542

Among Females.

0—5	7·359	6·242	6·200	4·975	7·434	9·822	6·809
5	·881	·790	·930	·729	·779	1·046	·944
10	·442	·389	·412	·418	·278	·321	·379
15	·436	·436	·378	·419	·535	·404	·532
20	·491	·475	·356	.463	·709	·788	·729
25	·713	·681	·663	·755	·818	1·100	·993
35	1·208	·952	·961	·988	1·169	1·434	1·250
45	1·754	1·406	1·640	1·373	1·624	2·295	1·759
55	3·223	2·596	3·111	2·519	3·352	3·875	2·887
65	7·761	5·856	6·457	5·512	7·010	7·788	6·319
75	15·390	13·112	14·401	13·580	14·683	16·626	13·688
85 & upwards	31·360	29·826	23·330	29·716	24·374	31·101	30·972
All ages	2·010	1·689	1·632	1·668	2·246	2·665	2·210

In Bethnal Green, Whitechapel, and Poplar, where servants aged 20 and upwards are few, the number of *young girls* employed in that capacity must necessarily be rather large, and this fact may help us to explain the low mortality recorded among girls aged 10—20. In the richer neighbourhoods, servants aged 25—45 are much more numerous than elsewhere. Then it must be borne in mind, that among the middle and richer classes it is quite usual in case of illness to take the benefit of country air, or even to go abroad ; this must further modify the death-rates materially. The country parishes, which have to bear their own mortality, and much of

that of London as well, may reasonably be expected to appear at a disadvantage in the Tables.

If these remarks are correct, the London mortality among males should not be so much nor so generally depressed as that among females, because men are less employed in domestic service, and are more apt to settle permanently where they work. The exceptions are to be looked for in such places as the City of London (where there are many unmarried warehouse and office keepers, porters, &c.) and the West End parishes. It would appear that the favourable circumstances affecting the mortality of West End populations operate to about the ages 35 among males and 45 among females; but in the other parts of the Metropolis such circumstances cease to have much influence about ten years earlier in life.

The rates of mortality in Bethnal Green are at nearly every age lower than the average of London, but particularly so at ages 5—20. Whether this arises from the mode of life of a portion of the population being such as not to entail much exertion, but to allow of existence being protracted rather through the absence of rude shocks than from the possession of the vigour necessary for sustaining such, or from any other cause, is a curious question.

Probably the fact that weavers commonly work "at home" may tend to make them care for their homes more than other workmen do, and their poverty almost necessitates a frugal and temperate mode of living, which again is characteristic of French people, and may be the less uncongenial to these descendants of French emigrants. In parishes where a rougher kind of work, better paid, has to be done, the tendency towards drunken excess and neglect of home comfort may largely contribute to aggravate mortality at all ages.

The figures generally are consistent with the hypothesis that to some extent the country sends to London its

healthiest and receives from London its least healthy* inhabitants. Infants are least subject to such interchange, and persons aged 35 years and upwards are in general so well established, or their country ties are so far severed, that they do not readily remove. The mortality at these ages, although abated by reason of numerous invalids of the better class (particularly ladies) leaving town, is decidedly high in London, though on the whole the figures are less unfavourable than might well have been anticipated.

It must not be forgotten that whilst inhabitants of London are constantly leaving town for the sake of their health, on the other hand special cases are continually arriving from the provinces for the benefit of the advice of London physicians; but in the absence of direct testimony as to the number of deaths among inhabitants of other places, temporarily living in London, I am inclined to believe it to be small. Possibly the deaths of London lunatics beyond the limits of the metropolitan division (at Hanwell and Colney Hatch) would alone be sufficient to balance such deaths.

Dr. Farr has endeavoured, by apportioning the patients and deaths in hospitals rateably among the metropolitan districts, to arrive at approximately correct local death-rates. But such a process must be exceedingly rough and inaccurate. It leaves out of view the undoubted fact that the hospitals are much more largely occupied in proportion with cases from such parishes as St. George in the East, Stepney, Whitechapel, Clerkenwell, St. Luke, and St. Giles, than from the richer neighbourhoods.† In one instance, that of "West

* Mr. Porter long ago drew attention to its being the custom of "persons whose "worldly circumstances allow of their doing so, to retire in the evening of their "days from the crowded city to the country." It may however be doubted whether such lives are on an average worse than those of persons of the like age, rich and poor, who have always resided in the country districts.

† In order to shew that this is not a trivial objection, I have made the following calculation:—

The deaths in ten years, 1851–60, excluding those in twenty-four principal

London," his corrected figures are simply incredible:

Ages.	Death-rates per Cent. Males.	Females.
0—5	10·674	9·159
5—	1·116	1·053
10—	·368	·104
15—	·181	·073
20—	·505	·428

The fact is, that a great number of deaths in St. Bartholomew's Hospital have been deducted from the "West London" mortality, and a few only added, to represent the rateable proportion, supposing all London populations equally participated in hospital accommodation; but the fact being that far more than an average proportion of West London

hospitals, were 574,363; the deaths in hospitals were 36,110, making 610,473 in all.

To every 100 male deaths not occurring in hospitals there were 8 more in hospitals; to every 100 female deaths, 4¼ more in hospitals.

If, as I believe, the proportion of male deaths occurring in hospitals, to the total number of other male deaths, varies in different parishes from 5 or 6 up to 12 or 13 per cent., then if an uniform addition of 8 per cent. were made, some districts would be represented as having a mortality 3 per cent. too high, whilst in others the mortality would be understated by 4 per cent. Imagine the ratio of male deaths in Kensington to be overstated, and that in Bethnal Green understated in an extreme degree, then the following rectifications would be needful: Kensington, 2·281 minus 3 per cent., or ·07 gives 2·211 true mortality; Bethnal Green, 2·457 plus 4 per cent., or ·10 gives 2·557 true mortality; and the difference instead of ·176 becomes ·346 against Bethnal Green.

This illustration relates to the *average* death-rate, but at *particular ages* the inaccuracy becomes far more serious. Between the ages 15—55, to 72,963 male deaths not in hospital there were 16,581 in hospital, or 22¾ per cent. Something like a variation from 10 or 15 up to 30 or 35 per cent. might appear if we could discover the true proportions belonging to different districts, and this would alter exceedingly the aspect of the figures.

Dr. Farr has been at the pains to apply his correction at each interval of age and to the sexes separately, because the proportions of deaths in hospital vary so much. Without recorded facts to guide him in apportioning these deaths more accurately, he could not do better than adopt the method he has pursued; but it is none the less true that until the needful corrections can be applied with greater accuracy, the rates of mortality as between one district and another will continue to be unreliable, especially between the ages 15—55 for males and 10—25 for females. At these ages, probably, the calculated mortality in the richer parishes should be diminished, and that in the poorer parishes increased, in a very sensible degree. I do not think there would be any insuperable difficulty in arranging with the 24 principal hospitals to introduce a column into their registers of in-patients, shewing where each patient had lived before coming into hospital. Such former place of residence could then be inserted in every hospital certificate of death, and the numbers of deaths might be apportioned in conformity by the Registrar General.

people die in hospital, the calculated result could not fail to be wide of the mark.

The ratios of deaths occasioned by Phthisis confirm my belief as to the reason of the low mortality in London between the ages 10—35, especially among females.

In each of the ten divisions of the kingdom, a larger ratio of females than males died of this disease in 1851—60. The average mortality in all England was

·258 males..... ·277 females

annually to 100 of either sex, but in London the order was reversed, becoming

·329 males..... ·249 females.

In particular metropolitan districts the same fact was observable, the ratios being in

Kensington.....	·335	males.....	·226	females.
St. George, Hanover-square...	·201	„	·193	„
London City	·309	„	·230	„
Bethnal Green	·294	„	·214	„
Poplar.....	·289	„	·228	„

and similarly in every district except Rotherhithe.

It would be too much to suppose that female nature is changed by residence in London. It is much more probable that many consumptive women quit London for the country. If it be true that females would naturally die in London, as elsewhere, at the rate of .019 more than males, then (assuming *no males* leave London because of this complaint) the female mortality ought to be ·348 instead of ·249 per cent. The difference ·099 on a population of 1,375,948 females makes 1,300 female deaths per annum, by Phthisis alone, transferred from London to country places. This estimate is perhaps too low, and the true number of both sexes may even exceed 2,000 annually.

I conclude that it would be a cautious estimate were we to assume that the deaths occurring at a distance from London, which would happen in London but for the migrations I have mentioned, are from 1,500 to 2,000 annually,—say about 800

to 1000 at ages 15—35, and from 600 to 1,000 at higher ages. The calculated ratios would be affected thus (adopting the lower estimate of the two):

Ages.	Mean Population 1851-61.	Ten Years, 1851-60. Registered Deaths.	Ten Years, 1851-60. Corrected Deaths.	Ann. Ratio, ℘ Cent. Registered Deaths.	Ann. Ratio, ℘ Cent. Corrected Deaths.
0—15	840,241	291,969	291,969	3·475	3·475
15—35	948,282	75,829	83,829	·800	·884
35 and upwards	794,589	242,675	248,675	3·054	3·130
Totals	2,583,112	610,473	624,473	2·363	2·418

The average mortality in England being 2.216, the excess of metropolitan mortality above that average is according to the Tables ·147, but by my supposition is really as much as ·202. In a word, the London death-rate is 9 per cent. above the average, instead of being only 7 per cent. in excess.

I have, as already remarked, adopted a low estimate of the correction necessary; and this because, in the first place, it is best to keep within bounds, and in the next, I do not wish to alarm too much those persons who, having hitherto implicitly relied on the returns, may now feel themselves on unsafe ground, and refuse to believe in conjectural rectifications. The following computations may help to establish that the figure is really moderate.

In 1851 and 1861 the numbers of domestic servants in London, exclusive of inn servants, were

Ages.	Males. 1851.	Males. 1861.	Females. 1851.	Females. 1861.
Under 15	991	1,193	7,287	10,320
15—20	4,014	3,806	37,564	49,241
20—25	4,410	3,840	40,440	47,625
25—35	7,219	6,140	40,761	43,128
35 and upwards	8,165	8,351	33,589	39,987
Totals	24,799	23,330	159,641	190,301

Assume that 60 per cent. of the female servants under 20 years of age, 50 per cent. of those aged 20—25, and 25 per cent. of those aged 25—35, have "a home in the country," to which they return in case of serious illness.

Assume further that there are 60,000 families the ladies belonging to which are as likely as not to leave town* in case of serious illness, especially consumption; and that besides these there are other women in London, to the extent of *at least* one-seventh of the number of those servants who have country homes, who having come from the country, and not being firmly established in town, would likewise leave in case of serious illness, then

Ages.	Average female population.	Number who would leave town if seriously unwell. Servants.	Others.	Number who would remain in town.
15—20	126,910	26,000	10,700	90,000
20—25	144,081	22,000	10,100	112,000
25—35	247,654	10,500	13,500	223,000
35 & upwards	435,037	...	24,000	411,000

Ages.	Annual Mortality per cent. Calculated on actual population.	Calculated on reduced population.	Approximate Annual deaths among those who leave town.
15—20	·543	·765	280
20—25	·648	·833	267
25—35	·875	·972	233
35 & upwards	2·872	3·040	730

This table shews a probable mortality among sick persons who leave London of 780 females at ages 15-35, and 730 at higher ages;† and adding about one-third for male deaths,

* One-half of these are treated in the Table as *certain* to leave town.

† It will be noticed that these numbers are calculated on the assumption that persons who are fresh from the country are liable to as high a rate of mortality as other residents in London. This I consider is not the case, and I, therefore, prefer to lower the estimate to 650 females and 250 males at ages under 35, and about the same numbers at the higher ages. The ratios when thus corrected would be as under.

Added for deaths at a distance in 10 years. Males.	Females.	Ages.	Uncorrected ratios. Males.	Females.	Corrected ratios. Males.	Females.
..	..	0—5	8·311	7·295	8·311	7·295
..	..	5	·970	·921	·970	·921
300	600	10	·452	·415	·477	·465
850	2100	15	·625	·543	·703	·708
750	2000	20	·831	·648	·897	·786
600	1800	25	1·050	·875	1·079	·948
450	1200	35	1·029	1·281	1·658	1·348
550	1150	45	2·468	1·806	2·521	1·900
550	1350	55	4·243	3·327	4·335	3·504
500	1450	65	8·522	6·959	8·700	7·320
350	1050	75	17·189	14·961	17·622	15·730
100	300	85 & upwards	31·441	28·392	32·525	30·385
5000	13000					

I conjecture that the corrections should be somewhat greater at ages 25–55,

the figures rise to the highest numbers estimated, without taking into account similar mortality at ages 10-15.

A comparison of the mortality by Phthisis at *the above ages* in England and London, shews how probable it is that the above figures may be moderate ones.

England. Ages.	Average Population in 1851-61. Male.	Female.	Deaths by Phthisis in 1851-60. Male.	Female.	Annual Mortality per cent. Male.	Female.
15—20	915,583	929,333	21,950	32,670	·240	·352
20—25	827,833	920,217	33,565	39,465	·405	·429
25—35	1,356,605	1,494,666	54,729	68,388	·403	·458
35 & upwards	2,789,355	3,011,401	98,678	93,229	·354	·310

London. Ages.	Average Population in 1851-61. Male.	Female.	Deaths by Phthisis in 10 years 1851-60. Male.	Female.	Annual Mortality per cent. Male.	Female.
15—20	109,514	126,910	2,250	2,654	·206	·209
20—25	115,314	144,081	4,211	4,057	·365	·282
25—35	204,809	247,654	9,277	9,118	·453	·368
35 & upwards	359,552	435,037	20,022	14,075	·557	·324

Deaths by Phthisis constitute about half the total mortality at the ages 15-35. If the true female mortality by Phthisis were assumed to be fully *one per thousand* higher in London than the above ratios represent, the augmentation would not render it disproportionately greater than the male death-rates actually observed; and I do not contend for a greater augmentation than about two per thousand by *all causes* at ages 15-25, still less at ages 25-45.

After all, estimates are best avoided; and as the greater number of deaths happen at the ages under 10 years and above 45, the rates of mortality at those ages would seem to be the most likely to indicate with truth the insalubrity or healthfulness of particular localities. The wretched homes of the poor, especially in cities, tend to aggravate infantile mortality; but many adults (especially men) spend their days too far from home influences to be much injured—nevertheless the turmoil and frequent excesses of town life are probably

and smaller at the higher ages; but I do not suppose they are very far from the truth. The mortality as corrected at ages 10–35 is on the whole lower than the national average, though far less strikingly so than would appear by the Registrar General's Tables.

considerably more trying than the quieter existence of the same class in rural parishes, and even the healthy immigrants into our large towns probably lose stamina as they advance in age—hence the excessive mortality after 45.

Although I have gone so fully into the facts respecting London, it will perhaps be better not to rest my argument on a single instance, however important, and I therefore turn to the recorded mortality in several places containing many servants and other persons who would not remain there in case of sickness.

Ages.	Bath.		Cheltenham.		Brighton.		Oxford.		Cambridge.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
0—5....	6·866	5·671	6·029	5·268	8·098	6·998	7·531	6·571	6·781	5·896
5	·693	·726	·845	·720	·871	·908	·960	·841	·925	·784
10	·434	·509	·302	·397	·419	·457	·476	·441	·465	·371
15	·594	·614	·469	·578	·612	·519	·503	·580	·758	·694
20	·954	·603	·698	·581	·989	·698	·500	·673	·795	·686
25	1·227	·813	·972	·793	1·160	·919	1·036	·830	1.199	·816
35	1·667	1·097	1·212	1·026	1·579	1·224	1·318	1·255	1·650	1·309
45	2·363	1·572	1·666	1·262	2·120	1·583	2·424	1·660	2·231	1·441
55	3·646	2·732	3.202	2·397	3·722	2·709	2·854	3·143	3·383	2·303
65	6·658	6·106	6·380	5·713	6·823	5·753	7·124	6·281	7·590	5·161
75 .....16·801		13·408	13·583	13·868	14·639	13·454	13·108	11·167	14·952	13·298
85 & upw. 34·681		30·325	24·706	32·807	37·917	28·413	40·000	33·333	33·636	30·370

In Bath, Cheltenham and Cambridge the infantile mortality is under, in Oxford and Brighton above the average. In Oxford the mortality among males aged 20—25 is exceedingly low, and in Cambridge, where the rate is much higher, it is still under the average. In every case, the death rates among females aged 10—35 are *under the average*. And if we bear in mind that Bath, Cheltenham and Brighton are favorite places of residence for ladies of independent means, that Cheltenham is remarkable for its educational establishments, and that the fluctuating population of Brighton was not perhaps up to its average when the Census was taken either in 1851 or in 1861, some of the figures are easily accounted for. The most singular of those which remain unexplained are the high ratio of female deaths in Oxford

at the ages 55—65, and the high death rates in Cambridge among males at several periods of life. Referring to the causes of death we find—

	Oxford.				Cambridge.			
	15—25.		55—65.		15—25.		55—65.	
	Males	Females	Males	Females	Males	Females	Males	Females
Mean Population, 1851-61..	2353	2254	515	579	3134	3158	745	951
Deaths in ten years.....	118	141	147	182	244	218	252	219
Smallpox	4	8	—	—	6	3	—	—
Scarlatina	1	3	—	—	4	6	—	—
Diphtheria.....	1	—	—	—	—	—	—	—
Typhus	7	15	4	2	32	28	6	3
Cholera, Diarrhœa, &c.	2	3	5	12	3	1	7	3
Other Zymotic Diseases	5	3	3	4	7	4	6	6
Cancer	—	1	14	13	2	1	15	23
Scrofula, &c.....	6	4	—	1	5	9	1	1
Phthisis.....	53	67	24	21	111	109	50	26
Hydrocephalus.....	—	—	—	—	1	—	—	—
Diseases of Brain.....	6	9	26	28	13	15	42	32
Heart Disease and Dropsy..	6	3	13	34	9	6	35	44
Disease of Lungs.....	3	5	22	33	7	9	41	36
„ of Stomach & Liver.	7	7	15	17	9	8	17	25
„ of Kidneys	1	—	4	2	3	3	10	1
„ of Generative Organs	—	1	—	1	—	—	—	2
„ of the Joints	2	—	—	—	10	—	—	—
„ of the Skin.....	—	—	1	—	—	—	—	1
Childbirth and Metria.....	—	5	—	—	—	11	—	—
Violent Deaths.....	9	6	4	1	17	3	5	1
Other Causes	5	1	12	13	5	2	17	15

These figures are hardly of sufficient magnitude to afford results of much value; but it does appear that among the young people at Cambridge Typhus and Phthisis were very fatal, whilst Cholera and diseases of the brain, heart and lungs chanced to be fatal to a considerable number of women aged 55—65 in Oxford.

Generally, when striking irregularities appear on comparing local tables of death rates deduced from the experience of a series of years, there is room to imagine that such irregularities may be owing to some epidemic; but on referring to the tables of total deaths in each year, 1851—60, no epidemic would appear to have seriously affected either Oxford or Cambridge.

In schools, the mortality of children is usually low, because they often go from thence when seriously unwell. Thus the mortality in Easthampstead district (including Sandhurst) is low at the ages 15—25, so far as regards *males*—

15—20...males ·284.....females ·906 per cent.
20—25... „ ·427..... „ ·769 „

A very thorough investigation of the number and causes of deaths at different ages and in successive years is necessary, before reliable results can be had; and local knowledge is here of great value, if carefully separated from the narrow prejudice which sometimes usurps its name. On the whole, as the statistics of small districts, subject possibly to special disturbances, can never be so reliable as those of large groups of districts, it is safest not to place much dependence upon them. Yet I would not be understood to speak slightingly of the mortuary statistics of single rural registration districts in general; they are often very interesting and valuable.

The accurate registration of "causes of death" is a desideratum towards which, I believe, we are constantly progressing,* and a skilfully devised "nosology," or classification of such causes must certainly be of the greatest importance as facilitating such progress. I leave the medical profession to decide whether the forms at present employed are capable of much improvement.

The statistics of deaths in 1860—61, arranged according to occupations, are perhaps hardly accurate enough to aid us in testing the value of the foregoing remarks. But it is well that a commencement should have been made in collecting and publishing such statistics.

A test of the abnormal composition of particular populations is furnished by the birth-rates. Where (as in London City and in St. George, Hanover Square) a large number of

* See the Twenty-seventh Annual Report of the Registrar General. (Appendix.)

persons are employed who, from the nature of their work, are necessarily in a state of celibacy, the birth-rate is low; but where such is not the case, an average birth-rate, if not something more, may commonly be expected in towns.

	Mean Population, 1851—61.	Births, 10 years, 1851—60.	Annual Birth-rate, ₱ 1000 inhabitants.
London City	50,743	11,821	23·3
Kensington	152,977	45,217	29·6
St. George, Hanover sq..	80,500	20,763	25.8
Bethnal Green	97,647	37,729	38·7
Poplar.....	63,179	25,030	39·6

It may further be inferred from these figures that birth-rates even for entire cities must usually be somewhat depressed, in consequence of the excessive proportion of unmarried young persons employed. Here again the last Census gives us valuable information—

	Males (Age 25—35.)			Females (Age 25—35.)		
	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed
London City.....	1,508	1,751	87	1,988	1,923	130
Kensington	3,807	8,161	152	10,956	10,008	714
S. George, Hanover-sq.	3,212	3,789	86	5,766	4,524	313
Bethnal Green	1,502	5,990	108	1,495	6,403	226
Poplar	1,969	4,681	86	936	5,353	215
London (Division) ..	67,471	144,209	2,743	88,340	165,210	8,829
England and Wales ..	444,538	930,385	21,059	475,733	1,040,244	43,988

Comment on these figures is almost superfluous. It is clear that the population of Bethnal Green is composed largely of natural families, whilst in Kensington the enormous number of domestic servants influences the figures as might have been expected. Any tendency to marry exceptionally late which may exist among the rich can scarcely be brought to a statistical test by the aid of the Census; but in Bethnal Green it is clear there must be a decided tendency to marry early.*

* I have just noticed in the twenty-seventh Report of the Registrar-General (page lxvii.) the following words, which indicate a belief that the apparent female mortality in London is reduced, for the reason I have assigned, below its true

Conclusion.

I have now touched upon each of the subjects I proposed to speak of, and indicated very imperfectly their importance and the degree of accuracy attainable. In working out results, the statist must be prepared to find other causes of uncertainty besides those to which I have adverted, but I have endeavoured to describe the most serious ones, and I am sure that a certain degree of order and method founded on experience is of the first necessity in approaching a subject where so little ingenuity will often suffice to confuse the enquirer. Not only mere perversity or self-interest, but even a want of clearsightedness and perhaps some habitual bias of the mind or sheer carelessness will frequently lead writers to false conclusions, against which it is difficult to be sufficiently on our guard.

I am especially anxious to assist in establishing and in making widely known, accurate bases for comparison of population statistics, since it is only by learning what is normal, by acquiring a true sense of the natural and symmetrical order which things tend to assume, that we can become competent to pronounce upon phenomena of any kind. And in doing this, I am solicitous to avoid the narrow pedantry which may sometimes imperceptibly steal upon statists more accustomed to consider figures from a mathematical point of view than to compare them with facts.

amount. "Phthisis and bronchial complaints are more fatal both to men and "women in Liverpool and Manchester than in London. But if the Metropolis "is compared with ten other large divisions of England it is found that phthisis "is more fatal to males in London than in any other division, not excepting "the north-western counties, which include the towns just mentioned. But the "mortality of females from that disease is singularly low, partly perhaps because "domestic servants, shopwomen, and milliners, who have come from the country, "retire when health fails them to their native air. On the other hand the "death-rate from bronchitis and pneumonia, for both males and females, is high; "it is higher in London than in any of the ten groups of counties." Bronchitis and pneumonia are most fatal in infancy and after 45, therefore London is not relieved of much mortality from these causes by migration. I think not London only, but Liverpool and Manchester also, would shew higher female death-rates from phthisis were it not for the reason given.

I might almost add, that statistical science performs its most important service to mankind, *not* by teaching truths, but by refuting and preventing the general acceptance of errors, especially on social questions. Be this as it may, it cannot be doubted but that many observations which are now matters of ordinary belief would still be fiercely contested, did no evidence exist of a statistical nature, to which reference could be made.*

* I have noticed with surprise that the practice is not yet entirely disused of reckoning the ratios of births, marriages, and deaths not in centesimal proportions, but as "one in so many persons." These proportional figures are highly inconvenient for purposes of comparison, and I regret that the decimal form, which really cannot be excelled, should not be exclusively used.

APPENDIX A.

Suggested Statistical Divisions.

1. London.—The Registration Division of London, the counties of Kent, Surrey, Sussex, Hants (except Fordingbridge, Ringwood and Christchurch), Berks, Oxford, Buckingham, Bedford, Huntingdon, Hertford, Middlesex, Essex, Suffolk, (except Mutford, Wangford, Blything, and Hoxne), Cambridge (except Wisbech and Whittlesey), and Northampton (except Peterborough and Oundle).
2. Birmingham—The Counties of Warwick and Worcester, and the districts of Tamworth, Lichfield, Penkridge, Wolverhampton, Walsall, West Bromwich, and Dudley in Staffordshire, Shiffnal, Madeley, Bridgenorth, and Cleobury Mortimer in Salop, Ledbury and Bromyard in Herefordshire.
3. Bristol.—The Counties of Gloucester, Wilts (except Alderbury, Salisbury, Amesbury, Wilton, Tisbury and Mere), and Somerset (except Yeovil, Taunton, Wincanton, Chard, Wellington, and Williton).
4. Devon.—The County of Devon (except Totnes, Kingsbridge, Plympton St. Mary, Plymouth, East Stonehouse, Stoke Damerel, and Tavistock), and the districts of Taunton, Chard, Wellington, and Williton in Somerset, and Stratton in Cornwall.
5. Dorset.—The County of Dorset, with Alderbury, Salisbury, Amesbury, Wilton, Tisbury, and Mere in Wilts, Wincanton and Yeovil in Somerset, Christchurch, Ringwood, and Fordingbridge in Hants.
6. Cornwall.—The County of Cornwall (except Stratton), and the districts of Totnes, Kingsbridge, Plympton St. Mary, Plymouth, East Stonehouse, Stoke Damerel, and Tavistock in Devon.

7. NORWICH.—The County of Norfolk, with Mutford, Wangford, Blything, and Hoxne in Suffolk, and Wisbech in Cambridgeshire.

8. LINCOLN.—The Counties of Lincoln (except Glanford Brigg, Caistor, and Louth), and Rutland, and the districts of East Retford, and Newark in Nottingham, Oundle and Peterborough in Northamptonshire, and Whittlesey in Cambridge.

9. NOTTINGHAM.—The Counties of Nottingham (except East Retford, Newark, and Worksop), Leicester and Derby (except Hayfield, Chapel-en-le-Frith, Chesterfield, and Bakewell), and the district of Burton-on-Trent in Staffordshire.

10. POTTERIES.—The districts of Stoke-upon-Trent, Wolstanton, Newcastle-under-Lyne, Leek, Cheadle, Uttoxeter, Stafford, and Stone in Staffordshire, and Newport in Salop.

11. SOUTH WALES.—The Counties of Monmouth, Glamorgan, Carmarthen, Pembroke, Cardigan, Brecon, Radnor, and Hereford (except Ledbury and Bromyard).

12. NORTH WALES.—The Counties of Anglesey, Carnarvon, Merioneth, Denbigh, Montgomery, Flint, and Salop (except Shiffnal, Madeley, Bridgenorth, Cleobury Mortimer, and Newport), and the districts of Great Boughton and Nantwich in Cheshire.

13. LANCASHIRE.—The Counties of Lancaster (except Ulverston and Lancaster), and Chester (except Nantwich and Great Boughton), and the districts of Saddleworth in the West Riding, Hayfield and Chapel-en-le-Frith in Derbyshire.

14. LEEDS.—The Registration districts of Leeds, Hunslet, Bradford, Dewsbury, Wakefield, Pontefract, Hemsworth, Barnsley, Halifax, Huddersfield, Todmorden, Keighley, Otley, Skipton, and Settle, all in the West Riding.

15. SHEFFIELD.—The Registration districts of Sheffield, Wortley, Ecclesall Bierlow, Rotherham, and Doncaster in the West Riding, Chesterfield and Bakewell in Derbyshire, and Worksop in Nottinghamshire.

16. EAST YORKSHIRE.—The East Riding of Yorkshire, and the districts of Whitby, Scarborough, Pickering, Helmsley, Malton, and Easingwold in the North Riding, Tadcaster, Selby, Goole, and Thorne in the West Riding, Glanford Brigg, Caistor, and Louth in Lincolnshire.

17. NORTH YORKSHIRE.—The North Riding (except Whitby, Scarborough, Pickering, Helmsley, Easingwold and Malton), and the districts of Teesdale, Darlington, and Stockton in Durham, Ripon, Pateley Bridge and Knaresborough in the West Riding.
18. NEWCASTLE.—The Counties of Northumberland (except Haltwhistle), and Durham (except Teesdale, Darlington, and Stockton).
19. CARLISLE.—The Counties of Cumberland and Westmorland, and the districts of Haltwhistle in Northumberland, Ulverston and Lancaster in Lancashire, Sedbergh in the West Riding.

APPENDIX B.

Concerning Density and Increase of Population in London.

TABLE VII.—AREA, INHABITED HOUSES, AND POPULATION OF THE CENTRAL PARTS OF LONDON IN 1841, 1851, AND 1861.

	Area excluding water.	Inhabited Houses.			Population.		
	Acres.	1841	1851	1861	1841	1851	1861
East to North—							
City of London District ..	379	7,921	7,297	6,362	55,920	55,932	45,555
Whitechapel do ..	383	8,834	8,812	8,664	71,765	79,759	78,970
St. George-in-the-East do.	243	5,985	6,146	6,169	41,350	48,376	48,891
Shadwell Sub-district.....	109	2,006	2,047	1,501	14,168	16,179	12,537
Mile End Old Town Upper Sub-district	191	4,159	4,500	4,829	25,570	29,582	33,747
Bethnal Green "Town" Sub-district	96	2,641	2,690	2,671	19,998	20,941	21,486
St. Leonard Shoreditch do.	75	2,857	2,866	2,854	17,976	19,449	19,188
Holywell Sub-district.....	68	2,146	2,201	2,154	16,722	17,245	17,313
East London District.....	153	4,796	4,739	4,489	39,655	44,406	40,687
St. Luke do.	220	6,385	6,349	6,356	49,829	54,055	57,073
	1,917	47,730	47,647	46,049	352,953	385,924	375,447
North to West—							
West London District	194	3,010	2,670	2,580	29,142	28,833	27,145
Clerkenwell do.	380	6,953	7,234	7,088	56,756	64,778	65,681
Holborn do.	196	4,603	4,311	4,109	44.461	46,621	44,862
Gray's Inn Lane Sub-dist..	155	2,657	2.946	2,867	22,149	26,523	27,808
St. Giles District.....	245	4,959	4,700	4,690	54,292	54,214	51,076
Tottenham Court Sub-dist.	145	2,607	2,586	2,603	26,800	28,433	29,371
All Souls do.	112	2,449	2,441	2,417	27,003	28,841	29,952
Cavendish Square do.	113	1.793	1,718	1,764	15,192	14,687	15,090
Rectory do.	116	2 209	2,177	2,143	26,714	27,633	26 692
St. Mary (Marylebone) do.	108	2,294	2,249	2,272	21,988	22,814	22,493
	1,694	33,534	33,022	32,553	324,497	343,377	343,170
West to South—							
Strand District.....	142	4,327	3,949	3,775	43,598	44.417	42,979
St. James (Westminster) do.	164	3,590	3,399	3,333	37,398	36,406	35,326
St. Martin-in-the-Fields do.	283	2,439	2,307	2,240	25,091	24,640	22,689
Westminster do.	839	6,439	6,642	6,798	56,712	65,609	66,213
Hanover Square Sub-dist...	445	2,190	2,184	2,156	21,398	20,216	19,773
May Fair do.	136	1,557	1,611	1,668	15.048	12,980	12,885
Waterloo Road First do. ..	66	1.713	1,729	1,736	12,767	14.068	15.369
Waterloo Road Second do...	99	2,269	2,191	2,179	17,319	16,348	16,640
Lambeth Church First do.	154	2,710	2,451	2,429	18,446	18,409	19,839
Lambeth Church Second do.	186	3,579	3,849	3,918	22,931	26,784	29,542
	2,516	30,913	30,312	30,232	270 708	281,897	285,155
South to East—							
St. Saviour District	200	4,659	4,600	4,471	32,975	35,731	36,170
St. Olave do	125	2,523	2,360	2,219	19,837	19,375	19,056
St. George (Southwark) do.	282	6,663	6,992	7,238	46,644	51,824	55,510
Trinity (Newington) Sub-district	142	3,122	3,294	3,410	19,064	20,922	22 675
Leather Market do.....	92	2,074	2,279	2,396	12,775	15 295	16,696
	841	19,041	19 455	19,723	131,295	143 147	150,107
Summary—							
East to North	1.917	47,730	47,647	46,049	352,953	385,924	375,147
North to West	1,694	33,534	33,022	32,553	324,497	343,377	343,170
West to South	2,516	30,913	30,312	30,232	270,708	281,897	285,155
South to East	841	19,041	19,455	19,723	131,295	143,147	150,107
	6,968	131,218	130.436	128,557	1,079,453	1,154,345	1,153,879

NOTE.—The Police on duty, 3,090 in 1841, were separately returned in that year, and not included in the populations of the respective districts, neither were persons on board vessels included in that year's Census; these latter numbered in 1851 3,635 in the Central parts, and 4,179 in the rest of the Metropolitan division, including 391 beyond the limits of what I have called the external districts.

TABLE VIII.—AREA, INHABITED HOUSES, AND POPULATION OF THE EXTERNAL PARTS OF LONDON IN 1841, 1851, AND 1861.

	Area excluding water.	Inhabited Houses.			Population.		
	Acres.	1841	1851	1861	1841	1851	1861
East to North—							
Poplar District	2,613	5,066	6,831	11,123	31,122	47,162	79,196
Limehouse Sub-district	249	2,834	3,209	3,694	19,337	22,782	27,161
Ratcliff do.	113	1,819	2,076	2,246	11,874	15,212	16,874
Mile End Old Town lower Sub-district	490	3,546	4 367	5.929	19,738	27,020	39,317
The Green (Bethnal) do	391	2,780	3,503	4,466	16,766	23,555	31,789
Church (Bethnal) do	132	3,081	3,497	3,849	17,293	21,787	25,528
Hackney Road do.	141	3,280	3,608	3,745	20,031	23,9.0	26,298
Hackney District	3,929	7,192	9,818	13,392	42,261	58,429	83,795
Haggerstone East Sub-dist.	125	1,256	1,829	2,507	6,976	11,351	17,310
Haggerstone West do.	132	1,901	2 973	3,142	12,013	20,276	23,260
Hoxton Old Town do.	116	2,143	2,386	3,233	13,991	17,131	25,777
Hoxton New Town do.	130	2,339	3,132	3,182	15,751	23,505	26,516
Islington East do.	1,899	4,609	6,921	11,277	30,294	47,448	79,899
	10,460	41,846	54,160	71,785	257,450	359,868	502,220
North to West—							
Islington West Sub-district	1,228	3,899	6,607	9,427	25,396	47,881	75,442
Kentish Town do.	1,634	1,560	3.248	5,980	10,398	21,326	44,317
Camden Town do.	171	1,807	2,498	2,550	15,018	21,115	23,266
Somers Town do.	184	3.243	3,731	3,907	28,910	35,641	39,099
Regent's Park do.	427	2,892	3,575	3,925	26,488	31 918	34,927
Hampstead District	2,252	1,411	1,719	2,653	10,093	11.986	19,106
St. John Sub-district	512	2,244	3,652	4,161	18,356	29,.26	32 540
Christ Church do.	518	3,180	3,589	3,600	28,911	33,895	34,913
St. Mary, Paddington, do.	827	940	2,278	4.826	6,436	17,252	39,015
St. John, Paddington, do.	450	2,539	3,825	4,861	18,737	29,053	36,769
	8,233	23,715	34,722	45,890	188,743	281,893	379,394
West to South—							
Kensington Town Sub-dist	1,214	2,393	3,986	6,909	17 369	29,183	51,910
St. Peter, Hammersmith, do.	189	629	813	1,000	3,565	4,467	5,413
St. Paul, Hammersmith, do	2,103	1,585	2,302	3,164	9.888	13,293	19,104
Fulham do.	1,684	1,471	1,797	2,481	9,319	11,886	15,539
Brompton do.	698	1,405	2,150	2,572	9,465	14,870	18,198
Chelsea District	800	5.648	7,591	8,314	40,179	56.538	63,439
Belgrave Sub-district	525	3,783	4 997	6,613	30,106	40,034	55,113
Wandsworth District	11,443	6,459	8,276	11,186	39.855	50,764	70,403
Kennington First Sub-dist.	452	3,082	3,977	4,761	17,235	24,261	30,785
Kennington Second do.	510	2,424	3,288	3,523	14,054	18,818	20 440
Brixton do.	1,445	1,622	2,362	3,223	10.175	14,810	20,067
Norwood do.	976	412	600	1,141	2,961	3,977	7,462
	22,069	30,893	42,139	54,887	204,171	282 731	377,875
South to East—							
Camberwell District	4,342	6,843	9,412	12,098	32 868	54,667	71,488
St. Peter, Walworth, Sub-dis.	321	4,162	4,923	6,975	23,299	29,861	44.463
St. Mary, Newington, do.	161	2,086	2,309	2,355	12,243	14,033	15,082
St. Mary Magdalen, Bermondsey, Sub-district	142	1,477	1,865	2,195	9,721	13,934	16,505
St. James, Bermondsey, do.	427	2,123	2,863	3,630	12,451	18,899	25,154
Rotherhithe District	749	2,420	2,792	3,521	13,917	17,805	24,502
St. Paul, Deptford, Sub-dis.	1,587	3,371	4,177	5,905	18,664	24,899	37,834
St. Nicholas, Deptford, do.	110	1,095	1,122	1.172	6,953	7,071	8,139
Greenwich West do.	301	2,924	3.300	3 651	16,552	18,800	21,696
Greenwich East do.	1,425	1,571	2,064	2,497	13,043	16,228	18,306
Lee do.	2,399	1,123	1,415	1,876	6,938	8,478	11,807
Lewisham Village do.	5,418	956	1,088	1,326	5,380	6,097	7,372
Sydenham do.		516	801	1,656	2.915	4,501	10,595
	17,382	30,667	38,133	48,857	181.944	235,273	312,943
Summary—							
East to North	10,460	41,846	54.160	71,785	257,450	359,868	502,220
North to West	8,233	23,715	34,722	45,890	188,743	281,893	379,394
West to South	22,069	30,893	42 139	54,887	204,171	282,731	377,875
South to East	17,382	30,667	38,133	48,857	181,944	235,273	312,943
	58,144	127,121	169,154	221,419	832,308	1,159,765	1,572,432

The results of Tables VII and VIII may be summarised as under, together with similar statistics for Woolwich and some adjacent portions of the Metropolitan Division not deemed to be parts of London.

	Western.		Eastern.		Woolwich, &c., excluded from Table VIII.
	Central.	External.	Central.	External.	
Acres	4,210	30,302	2,758	27,842	10,139
Houses 1841	64,447	54,608	66,771	72,513	4,405
„ 1851	63,334	76,861	67,102	92,293	6,343
„ 1861	62,785	100,777	65,772	120,642	9,445
Population 1841...	595,205	392,914	484,248	439,394	33,566
„ 1851...	625,274	564,624	529,071	595,141	48,126
„ 1861...	628,325	757,269	525,554	815,163	77,678

The circuit from Holloway by Hammersmith to Norwood is very little greater than that by Blackwall. But to be accurate, we should add Stratford and West Ham subdistricts (population 41,189 in 1861) to the eastern half, and the populations of the two moieties of London would then be nearly equal—say, 1,385,594 inhabitants in the western, 1,381,906 in the eastern half. In 1841 the respective populations were 988,119 in the western, 938,030 in the eastern moiety (including Stratford and West Ham). Population has, therefore, increased with the greatest rapidity on the eastern or unfashionable side, which bids fair to become more populous than the other.

It will be observed that above 1,150,000 persons are located in the central districts, where, although in 1841 there was a little vacant building land, there can hardly be any space now for new houses, and the probabilities are in favour of a decrease in population rather than an increase, as docks, warehouses, &c., may be constructed where dwellings now stand.

In the Western Central districts there are ten inhabitants, on an average, to each house; in the Eastern, only eight. In the Western suburbs there are 7·5 inhabitants to each house; in the Eastern, 6·8.

The houses in the Eastern districts are doubtless smaller, but they are more numerous than in the West. In the Western fully-built districts (including, however, several of the Parks) there are about 15 houses to the acre; in the Eastern area of a like character, 24 to the acre.

Table IX shews the density of population in each of the Central districts. It will be observed that in most of them a certain degree of crowding has taken place, the average number of inhabitants *per house* having increased materially in the ten years 1841—51, and the

increase having been generally maintained in the next ten years. The highest density observed is about 300 persons per acre.

If the external districts should ever be as densely peopled as the Central ones now are, their population will be four or five times as great as it now is; for the present, therefore, the rate of increase in these districts is almost certain to be rapid. But it will vary in each case according to circumstances. Some of the external districts are almost covered with houses already; others possess immense reserves of land, much of it conveniently situate for building purposes.

It should be remembered that ratios of births and deaths, calculated for districts, depend altogether on the population assumed as a divisor, and therefore, if anything like accuracy is to be attempted, censuses of the populations of great cities should be taken at intervals of *three or four years*,—say once or twice in the interval between the decennial censuses; or a register of dwelling-houses erected and demolished, annually published with the Registrar's Reports, would probably furnish material for a close approximation.

If, on the other hand, a *rough estimate* of the actual populations of the different districts be desired, it may be had after this fashion:

	Kensington.	Islington.	Hackney.
Births, 1850—52 (average)	3,658	3,170	1,818
„ 1860—62 „	5,672	5,456	2,721
„ 1865	6,891	6,743	3,323
Population, 1851	120,004	95,329	58,429
„ 1861	185,950	155,341	83,295
Births to 1000 persons, 1851 ...	30·5	33·3	31·1
„ „ 1861 ...	30·5	35·1	32·7
Estimated population in 1865, assuming the ratio of births in that year to be the mean of the two figures above calculated	226,000	197,000	104,000

TABLE IX.—NUMBER OF INHABITANTS PER HOUSE AND PER ACRE, AND NUMBER OF INHABITED HOUSES PER ACRE, IN THE CENTRAL PARTS OF LONDON.

	Inhabitants per House.			Inhabitants per Acre.			Houses per acre in 1861.
	1841	1851	1861	1841	1851	1861	
East to North—							
City of London District	7·1	7·7	7 2	148	148	120	16·8
*Whitechapel do.	8·1	9·1	9 1	187	208	206	22·6
†St. George-in-the-East do.	6·9	7·9	7·9	170	199	201	26·4
†Shadwell Sub-district	7·1	7·9	8 4	130	148	115	13·8
Mile End Old Town Upper do.	6·1	6·6	7·0	134	155	177	25·3
Bethnal Green "Town" do.	7·6	7·8	8·0	208	218	224	27·8
St. Leonard (Shoreditch) do.	6 3	6·8	6 7	240	259	256	38 1
Holywell do.	7·8	7·8	8 0	246	254	255	31·7
East London District	8·3	9·4	9·1	259	290	266	29·3
St. Luke do.	7·8	8·5	9 0	226	246	259	28·9
Average	7·4	8·1	8·2	184	201	196	24·0
North to West—							
West London District	9·7	10·8	10·5	235	233	219	20·8
Clerkenwell do.	8·2	9 0	9·3	149	170	173	18·7
Holborn do.	9 7	10·8	10·9	227	238	229	21·0
Gray's Inn Lane Sub-district	8·3	9·0	9·6	143	171	179	18 6
St. Giles District	10·9	11·5	11·5	222	2·1	221	19 1
Tottenham Court Sub-district	10·3	11·0	11·3	185	196	203	18·0
All Souls do.	11·0	11·8	12·4	241	258	267	21·6
Cavendish Square do.	8·5	8 5	8 6	134	130	134	15·6
Rectory do.	12·1	12·7	12·5	230	238	2·0	18 5
St. Mary (Marylebone) do.	9·6	10·1	9 9	204	211	208	21 0
Average	9 7	10·4	10·5	197	203	203	19·2
West to South—							
Strand District	10·1	11·2	11·4	307	313	303	26·6
St. James (Westminster) do.	10·4	10·7	10·6	228	222	215	20·3
‡St. Martin-in-the-Fields do.	10 3	10·7	10·1	89	87	80	7·9
‖Westminster	8·8	9·9	10·0	68	78	81	8·1
‡Hanover Square Sub-district	9·8	9·3	9·2	48	45	44	4·8
May Fair do.	9·1	8·1	7·7	111	95	96	12·3
Waterloo road, First do.	7·5	8·1	8·8	188	207	225	25·5
Waterloo road, Second do.	7·6	8·4	8·6	175	185	188	22·0
Lambeth Church, First do.	6·8	7·5	8·2	120	120	129	15·8
Lambeth Church, Second do.	6·4	7·0	7·5	123	144	159	21·1
Average	8·8	9·3	9·4	108	112	113	12·0
South to East—							
St. Saviour District	7·1	7·8	8·1	165	179	181	22·4
St. Olave do.	7·9	8 2	8·6	159	155	152	17·7
St. George (Southwark) do.	7·0	7·4	7·7	165	184	197	25·7
Trinity (Newington) Sub-district	6·1	6·5	6·6	134	147	160	24·0
Leather Market do.	6·2	6·7	7·0	139	166	181	26·0
Average	6·9	7·4	7 6	156	170	178	23·5

* Includes St. Katharine Dock and the Tower of London.
† Include London Docks; the Shadwell Basin was constructed between 1851 and 1861.
‡ Includes Green Park and part of St. James's Park.
‖ Includes great part of Kensington Gardens, and the rest of St. James's Park.
‡ Incudes Hyde Park.

APPENDIX C.

Movement of Population in England and Wales.

TABLE X.—SHEWING THE PROBABLE NUMBER OF ENGLISH CHILDREN AGED 0–5 ON 1st JULY, 1861.

	Children Estimated to Survive, Aged					Children Aged 0—5	
	0—1	1—2	2—3	3—4	4—5	Estimated to survive.	Enumerated.
I. London	85,188	74,631	68,421	64,766	62,278	355,284	362,296
II. South Eastern ..	52,445	48,698	45,892	44,113	43,072	234,220	238,466
III. South Midland ..	38,501	35,920	33,809	32,708	32,274	173,212	173,367
IV. Eastern	32,915	31,187	29,848	28,412	28,346	150,708	151,020
V. South Western ..	53,095	49,528	47,094	44,532	44,013	238,262	238,725
VI. West Midland ..	78,806	71,126	66,187	62,060	60,404	338,583	338,682
VII. North Midland ..	39,691	36,975	34,158	32,833	32,649	176,296	174,764
VIII. North Western ..	94,582	82,787	75,769	72,081	69,179	394,398	403,241
IX. York.....	65,247	58,392	53,643	51,946	51,404	280,832	278,581
X. Northern	38,614	34,956	32,481	30,540	30,322	166,933	165,005
XI. Welsh	40,171	37,761	35,597	33,086	33,037	179,652	176,635
Totals.....	619,275	561,961	523,099	497,077	486,968	2,688,380	2,700,782

The above Table was thus calculated. The children aged 4—5 on 1st July, 1861, would average about 4½ years old, and their births must have taken place in the year between 1st July, 1856, and 1st July, 1857. Assume as a basis, therefore, the mean number of births in 1856 and 1857, and deduct the deaths among children aged 0—1 in 1857, 1—2 in 1858, 2—3 in 1859, 3—4 in 1860, and part of the deaths at the age 4—5 in 1861. Some of the children had been exposed to five years mortality, others to only four; therefore part only of the mortality occurring in the fifth year must be deducted, in order to obtain a just estimate. Proceeding in the same way to ascertain the probable numbers of children aged 3—4, 2—3, 1—2, and 0—1 in July, 1861, the above Table is the result.

The figures would exactly agree with those given by Dr. Farr in his paper (*Statistical Journal*, March, 1865), but that I have made a different allowance for the number of deaths deductable in consideration

of the mortality in the year next preceding the Census. At all ages but 0—1 he has assumed that a moiety of a full year's deaths should be deducted. At that age he deducts very much more than a moiety, but does not explain the basis of his correction. I take it that when the mortality is constantly abating, as it is during the first five years, more than a moiety of a year's deaths must always fall within the calculation. Thus, of 12,000 children aged 0—1 at the Census—

About 1,000 must have been born within a month, and average fifteen days old; on these the heavy mortality of the first days of life has fallen.

About 1,000 must have been born a month earlier, and average six weeks old; these also have had their ranks much thinned.

About 1,000 must be aged between ten and eleven months; on these and on those a month older, almost a year's mortality has fallen, for the deaths in the last two months are comparatively few.

To make up the year's deaths, the mortality which will happen to each rank of children before its attaining a full year has to be added. It is manifest this will be less than the mortality already sustained.

Dr. Farr's own words are—"Of 1,000 children born simultaneously, "851 live one year, 149 die, and 903 will on an average be found living "at a Census in the first year of their age;" *i.e.*, of 149, being the deaths in the first year of life, 97 or rather less than two-thirds occur within the fractions of a year (averaging six months) preceding a Census, and the other 52 occur in the period (also averaging six months) after the Census, which the children have to pass before attaining a full year. I do not know how, in the face of this statement, he has happened to calculate that of 106,428 deaths among children under one year old, as many as 94,164 should be deducted as dying before the Census, reducing the births 690,227 to 596,063 living. I have preferred to deduct only two-thirds, or 70,952, leaving 619,275 living.

I have also, at the next three ages, preferred to calculate 60 per cent. of deaths before and 40 after the Census day, rather than divide the deaths equally between the two periods. At the age 4—5 I have adopted Dr. Farr's figure.

The next consideration is, that the figures thus obtained represent the probable population on 1st July, 1861, whereas the Census was taken in April. Dr. Farr mentions that, in consequence of this, the births assumed do not correspond with the actual births from which the

Census numbers were derived. But they do not deviate widely on the whole, thus:

			Actual Births.			
1st Apr.	1856,	to Mar.	31st, 1857—658,633	Assumed number,		660,262
,,	1857	,,	1858—663,600	,,	,,	659,276
,,	1858	,,	1859—660,054	,,	,,	672,681
,,	1859	,,	1860—697,529	,,	,,	186,965
,,	1860	,,	1861—673,801	,,	,,	690,227
			3,353,617			3,369,411

and if we reduce the estimated number of survivors by 15,000, sufficient allowance will probably have been made for the difference referred to.

Dr. Farr has pointed out that many children are registered as being one year above their real age, and also that infants are to some extent carried out of the country; besides which, a few may escape enumeration.

If we assume that the births unregistered (independent of those of children whose deaths also are unregistered) amount to nearly 3 per cent. of the whole, say 18,000 per annum, then the following allowances can be afforded for these inaccuracies:—

First, 2,000 per annum aged 0—5 may be assumed to be carried out of the country, in excess of the numerous infants arriving with immigrants from Ireland, &c. The allowance for such would consequently be 5,000.

Next, one in 200, or 13,200, might be allowed for infants who escape enumeration.

Thirdly,	24,354	infants	aged	0—1
	67,975	,,	,,	1—2
	57,493	,,	,,	2—3
	56,374	,,	,,	3—4
	44,398	,,	,,	4—5

might be assumed to be returned as one year older than their real age, the total number of surviving children under five years of age being not 2,688,380 but 2,763,380 by hypothesis, including the 5,000 assumed to be taken away by emigrants.

I believe these figures are ample;* and, applying a similar gross correction locally, I find that the allowance for unregistered births in each Division, during the years 1851—60, may be fairly reckoned as set forth in the next Table.

* It is true the births in the years 1851-56 which escaped registration were probably somewhat more numerous than 18,000 per annum, but in the absence of any reliable measure of the unregistered births during that period, I prefer to avoid the risk of exaggeration.

TABLE XI.

Division.	Births 1851-60.			Deaths 1851-60.	Natural Increase.		Actual Increase in Civil Counties.
	Registered.	Add for unregistered. Per cent.	Add for unregistered. Number.		In Registration Counties.	In Civil Counties.	
I. London	864,563	4½	38,800	610,473	292,890	292,890	441,753
II. South Eastern	536,806	4	21,500	349,803	218,503	214,713	219 131
III. South Midland	414,329	2	8,300	258,508	164,121	162,571	62,264
IV. Eastern	361,970	2	7,200	232,213	136,957	141,647	27,472
V. South Western	564,805	2	11,300	364,127	211,978	211 698	31,724
VI. West Midland	810.100	2	16,200	511,133	315,167	319,717	302 346
VII. North Midland	426,038	1½	6,400	264,184	168,254	170,934	77,689
VIII. North Western	999,830	5	50,000	691,835	357,995	357,875	447,907
IX. York	695,439	1½	10,400	439,313	266,526	269,126	235,615
X. Northern	385,888	1½	5,200	233,146	158,542	153,802	169,440
XI. Welsh	411,892	1	4,100	265,980	150,012	145,962	123,274
Totals	6,471,650		180,000	4,210,715	2,440,935	2,440,935	2,138,615

Division.	Born in the Division, but resident elsewhere in England.			Born elsewhere in England, but resident in the Division.		
	1851	1861	Estimated Deaths 1851-60	1851	1861	Estimated Deaths 1851-60
I. London	231,593	319,916	52,000	723,156	853,052	130,000
II. South Eastern	300,644	372,694	57,000	218,125	343,488	50,000
III. South Midland	239,151	304,855	46,000	171,308	207,872	34,000
IV. Eastern	207,917	273,621	40,000	74,336	99,163	15,500
V. South Western	278,006	347,259	54,000	92,732	120,048	19,000
VI. West Midland	250,366	310,553	50,000	225,521	296,535	47,000
VII. North Midland	177,403	236,506	37,000	107,569	129,405	21,000
VIII. North Western	129,599	168,803	26,500	288,535	355,780	61,000
IX. York	186,759	239,421	39,000	147,922	203,561	31,500
X. Northern	85,705	107,806	17,500	66,800	99,049	15,000
XI. Welsh	111,272	139,104	22,500	82,411	112,585	17,500
Totals	2,198,415	2,820,538	441,500	2,198,415	2,820,538	441,500

Division.	Irish, Scotch, Foreigners, &c., resident in the Division.			Immigration in excess of Emigration.		Emigration (in excess of those who returned home) of natives of the Division.	
	1851	1861	Estimated Deaths 1851-60	Of English from other Divisions.	Of Irish, Scotch, Foreigners, &c.	To other English Divisions.	To Ireland, Scotland, and Abroad.
I. London	188,353	209,760	35,000	259,896	62,407	140,323	83,117
II. South Eastern	38,969	61,913	8,500	175,363	31,444	129,050	78,339
III. South Midland	14,056	16,581	2,500	70,564	5,025	111,704	64,192
IV. Eastern	9,162	12,170	1,750	40,327	4,758	105,704	53,566
V. South Western	23,178	30,976	4,500	46,316	12,298	123,253	115,335
VI. West Midland	54,715	68,229	9,500	118,014	23,014	110,187	48,212
VII. North Midland	16,460	20,122	3,000	42,836	6,662	96,103	46,640
VIII. North Western	262,847	314,470	64,000	128,245	115,623	65,704	88,132
IX. York	57,804	69,528	10,000	87,139	21,724	91,662	50,712
X. Northern	77,157	105,331	15,000	47,949	45,174	39,601	35,184
XI. Welsh	25,525	37,194	5,000	47,674	16,669	50,338	36,999
Totals	769,216	946,274	158,750	1,063,623	342,808	1,063,623	645,128

The figures are not perfectly accurate, because the deaths amongst persons who are not residing in the division where they were born have to be estimated; but since such persons are to a great extent people at the period of life when mortality is lowest (few of them comparatively being infants or aged), we are safe in assuming that the deaths amongst them can hardly be much more numerous, and, perhaps, are even fewer than are calculated above.

Another source of inaccuracy (which is, however, of very secondary importance when dealing with large divisions), is the defective form of the Census of 1851 as to birthplaces, which, as formerly explained, compels a resort to estimates. The figures shewn above (except the columns of births and deaths) relate to groups of *civil* counties (closely corresponding in their boundaries and population with the respective registration divisions), and not to the actual divisions. The migrations within such groups of counties correspond closely with those in the registration divisions, and can be ascertained with much less difficulty as the tables are now framed. To prepare a table founded on the figures for registration counties would be a work of so much labour, and the results would differ so little from those obtained as above-mentioned, that I have not considered the task to be one which I need undertake.*

It will be seen that the number of emigrants leaving this country, less the number of persons of English birth returning from abroad, is estimated at 645,128. This figure results from the assumptions that 180,000 births escaped registration, and that 158,750 deaths took place among strangers resident in this country. By increasing either figure we should augment our estimate of the number of emigrants to the same extent.

The words of Dr. Farr with reference to emigration may here be quoted. He says—"The Emigration Commissioners have only distinguished the emigrants of English origin from the rest since 1853, "when their records shew that 454,422 English people of all ages left "our shores. The average annual number of English emigrants was "56,803, and the number in the ten years, if this average is adopted "for 1851—52, is 568,027. But the emigration of 1851—52 was heavy, "and it bore chiefly on the Irish people. At the Census, by applying "the *proportion* of later years, the emigrants were estimated at 640,316."

* The chief difficulty is that the birthplaces of the inhabitants of the registration counties are not shewn in the last Census, but would have to be arrived at by adding together the figures for each separate district.

On the above shewing, I am inclined to think that 600,000 would be a fair estimate of actual emigration of persons of English birth from this country in 1851—61. To this must be added the increase in the numbers of the Army, Navy, and Merchant Seamen abroad. The increase in question was from 126,561 to 162,273, and as probably more than 20,000 deaths occurred among this absent portion of our population, 55,000 must be added to the roll of emigrants. Then it is likely that 35,000 persons may have gone to Scotland and Ireland; so that in all 690,000 English people quitted their country.

Small numbers of persons travelling abroad, and emigrants who escaped being enumerated by the Commissioners, are still to be accounted for; but against these we may set a more considerable influx of returning emigrants, which was in all likelihood sufficient to diminish the total drain of native inhabitants to about 650,000, though in the absence of data it is only possible to hazard a conjecture.

Enough, perhaps, has been said to convince the enquirer that each of the estimates shewn in the tables is a near approximation to the truth. They in some measure support each other, and none can be very materially altered without producing results which would appear less probable than those shewn. Some little augmentation of the estimates of unregistered births and of deaths* seems to me to be probably justifiable, but I do not desire to exaggerate the movement of population, which is striking enough on the face of my estimates. Any change in the calculated number of deaths (441,500) among persons who reside out of their own division would affect both sides of the account—although not every division alike.

I have paid no regard to possible omissions in the Census of Numbers, for these were doubtless as numerous in 1851 as in 1861, and at all events there is no knowing what degree of importance to attach to such omissions.

I have assumed that the strangers resident in this country returned their birthplaces correctly; but if, as Dr. Farr suggests, many Irish returned themselves as English, something should be added to the calculated numbers of Irish immigrants and of English emigrants.

The migration into and from particular divisions would appear to be less or more according to the boundary chosen. For example, a Londoner removing to Richmond counts as migrating out of his division;

* The calculations as to deaths would be much facilitated if the Census Tables exhibited the ages of all strangers Irish, Scotch, and others, living in our divisions, and not merely the ages of foreigners.

but if the boundary of that division were a circle extending fifteen miles from St. Paul's Cathedral, he and thousands of others would not appear in the tables as having removed.

Again, it is certain that besides the 33,117 natives of London who emigrated, thousands of natives of other parts of England, settled in London, also emigrated from thence. The number of such emigrants serves to depress the *nett* immigration from the provinces into London to 259,996. It also diminishes the corresponding numbers of country people shewn to have emigrated from their own to other English divisions. If alterations were required to be made with a view to shew the actual emigration from each division, the figure 33,117 would have to be increased by transferring to it part of the other numbers making up 645,128; but the fact would still remain that, whether direct or *viâ* London, the numbers of *natives* of the several divisions set down in the table had left this country.

APPENDIX D.

Some Statistics of Lancashire and Cheshire.

I have here gathered together a few tables as to birthplaces, ages, civil condition, births, deaths, and marriages, and migration within the North Western Division. I have adhered to the limits of that division, although I have elsewhere, on general grounds, suggested a somewhat different boundary; purely for reasons of convenience, and because, after all, the two boundaries are not extravagantly unlike.

Table XII is similar to Table XIX in Vol. XI of the Society's *Transactions*. The proportion of Irish and other strangers will be seen to have increased between 1851 and 1861 from 13·9 to 15·4 per cent. of the adult population; in Blackburn the proportion was doubled. Immigrants from the neighbouring counties were not relatively more numerous than in 1851, but the ratio of persons from a distance exceeding fifty miles had on the whole been augmented by 10 per cent.

Table XIII resembles Table XX of the older series, with the exception that it shews the percentages of *total* numbers of natives of different counties resident in the division, and not those of persons aged 20 years and upwards. The percentages of adults who have quitted the place of their birth are considerably higher than those of persons of all ages, including children.

The relative numbers of strangers within the division who have come from beyond the fifty-mile limit will be seen to have sensiby increased, the numbers being—

	1851.	1861.
Natives.....	925,423	1,072,630
From counties within 50 miles.....	160,688	207,875
„ „ beyond 50-mile limit.....	58,333	75,327
„ Ireland, Scotland, and abroad.....	187,386	246,999

Table XIV is on a new plan. It shews what I estimate to have been the nett influx of natives of other places and the nett efflux of natives of Lancashire and Cheshire during the ten years 1851—61. The

numbers for 1851 have been corrected (by estimate) so as to shew approximately how many strangers there were in the *civil* counties at that time, and *vice versa*.

It will be seen that from counties within the fifty-mile limit, a nett gain of 49,852 persons had been derived; from other counties a nett gain of 12,689 persons. From beyond England and Wales there was an immigration of 115,623 against an emigration of Lancashire people numbering 88,132, the nett gain being therefore 27,491 persons. Total augmentation of population in excess of natural increase, 90,032 persons.

Omitting all notice of the fact that many of the 1,935,579 natives of Lancashire and Cheshire living in the civil counties in 1851 were the descendants of Irish and other immigrants, it may be said that 78 per cent. of the inhabitants were then natives, and 22 per cent. were strangers. But these strangers included a larger proportion of adults than the natives, and it would be fair to suppose that nearly 30 per cent. of the subsequent births have occurred amongst them. Let us, however, adopt a lower figure, and imagine that as few as 150,000 of such children survived among the "native" population enumerated in 1861. Then 2,264,618 "natives," reduced by 150,000, would leave 2,114,618 genuine Lancashire and Cheshire people,—against 670,250 strangers and 150,000 children of strangers; together, 28 per cent. of the whole.

The operation would take place thus:

	Natives.		Strangers.
In 1851	1,935,579		551,382
Add corrected births, allowing for 250,000 children of strangers	799,600		250,000
	2,735,179		801,382
Deduct deaths (less 225,000, including 100,000 deaths among the 250,000 infants)	466,725		225,000
	2,268,454		576,382
Deduct emigration	153,836	add immigration	243,868
	2,114,618		820,250

In this calculation it is not noticed that the *natives* who emigrate doubtless include a few of the children of strangers; but the extremely high death-rate assigned to these children must fully counterbalance that omission. And if in ten years the 1,935,579 natives only increased

to 2,114,618, whilst the 551,382 strangers increased to 820,250, it may be inferred that at no distant period the strangers *and their descendant* will outnumber the natives, if they do not do so already.

It will be observed, on again referring to Table XIV, that the Division generally gains a greater number of immigrants than it sends emigrants to other English and Welsh counties. Denbigh is no exception to the rule, because the immigrants from "Wales (county not stated)" must come partly from that county, and are very numerous. The real exceptions are Durham, Glamorgan, Essex, the three Metropolitan counties, Sussex, and Hampshire. The figures for London itself are pretty evenly balanced.

In what capacity Lancashire men go to reside in the two mining counties I cannot say; but there are some hundreds of soldiers at Aldershot, Chatham, and Portsmouth, who were born in the North-western Counties, and whose removal from other quarters may partially account for the small augmentations of Lancashire men elsewhere observed. The unusual increase in the neighbourhood of London arises perhaps from the erection of new suburbs, in which persons arriving from a distance are apt to take up their abode. The number of wealthy natives of the North-western Division, who remove to the Southern Counties for the sake of a more agreeable residence, seems less striking than might have been anticipated; the increase in Sussex is probably of that character, and in London the proportion of natives of Lancashire is much more considerable in the Western than in the worst of the Eastern districts.

It will be observed that the Table before us exhibits the final result of various migrations, in many cases not direct from Lancashire to the places where additional numbers of natives of that county are found, but not the less requiring a total exodus from Lancashire equal to that stated in the Table, and indicating by such result the localities which are ultimately most attractive for Lancashire people. Thus, if one native of Lancashire had removed from that county to Yorkshire, and another then resident in Yorkshire had removed to Durham, the Table would shew the nett result only, viz., one Lancashire man gained by Durham and lost by Lancashire.

The Table might be expanded at pleasure by ascertaining the approximate loss or gain of Lancashire people in each registration district out of Lancashire, and the loss or gain of strangers in every registration district in Lancashire. Nothing of the kind has ever been attempted; indeed, so far as I am aware, this is the first enquiry

founded on the census of birthplaces which has been directed to the subject.

Table XV shews the estimated number of unregistered births in the years 1856—61 in each district. These figures are of assistance to us in correcting our estimate of the nett total of immigration or emigration into or from each registration district, and also in connection with birth-rates.

In preparing this Table the method described in Appendix C has been adhered to. The number which it is estimated should be living differs by 3,400 from that shewn in Table X, just as 2,688,380 is reduced to 2,673,380. The number of children ascertained at date of the Census is increased by 2½ per cent., just as 2,700,782 is increased by

5,000	children	taken away by emigrants.
13,200	„	supposed to have escaped enumeration.
44,398	„	supposed to have been incorrectly returned as aged five years and upwards.
Total 62,598		

In the working out of these figures irregularities of a contradictory character appear. In several districts the computed numbers of children, derived from the numbers of registered births and deaths, are actually *greater* than those ascertained at the Census, plus the allowance of 2½ per cent. In these cases it is possible that more than the usual numbers have been inaccurately returned as aged fully five years; from some of the districts, such as Stockport and Macclesfield, whole families have doubtless migrated; and again, more than one in two hundred may have escaped enumeration. Be the cause of the irregularity what it may, we should not be justified in supposing that many unregistered births can have occurred in those districts which shew, per hypothesis, less than none.

On the other hand, the figures for Liverpool and West Derby shew such excessive proportions of unregistered births as must needs excite suspicion of error. And bearing in mind the prodigious immigration into Liverpool from Ireland and other places not far distant, it may well be supposed that the immigrants bring far greater numbers of children than the emigrants take away. If we were to assume that 3,000 children under five years of age, not being natives of Liverpool or West Derby, were enumerated there in 1861, the computed number of unregistered births would still be 7,699 or 9·3 per cent.

Guided by these and similar considerations, I have, in constructing

Table XVI, somewhat modified the ratios of unregistered births assumed to have occurred.

Table XVI shews the nett immigration or emigration just referred to, assuming equal numbers of male and female births to have been unregistered, and that the numbers unregistered in 1841—50 amounted to 75,000, or 50 per cent. more than the total number roughly estimated to have escaped registration in the succeeding decennium. The corrections applied in this Table are in a great measure conjectural, but probably give a truer notion of the actual result of the migrations which took place between 1841 and 1861 than could otherwise be attained.

Columns are added to shew the estimated immigration from a distance into each district. These are arrived at by the method used in constructing Table XIV, and may be considered reliable.

Table XVII is like Table XXV of the old series (Vol. XII of the Society's *Transactions*). But Table XVIII, which is on a new plan, sets the civil conditions of the population in a clearer light. In it the married population at all ages is treated as an unit, and the relative proportions of unmarried, married, and widowed persons at three periods of life are shewn. The ratios of the unmarried vary exceedingly, and a Table of Occupation Statistics would be highly interesting as throwing light on the causes of these dissimilarities; but to do justice to the subject, an entire paper at the least should be devoted to it. The proportions of widows will be seen to bear out my opinion formerly expressed, that the high mortality in Liverpool and Manchester is the principal cause of the unusual disparity there observed between the numbers of widowers and widows.

The excess of female population, it will be seen, does not consist, as is often romantically supposed, of maidens who can find no partners, but of widows, many of them of advanced age.

Table XIX, shewing the proportions at the higher ages to 100 children under 10 years of age, resembles Table XXVI of the old series. With a somewhat diminished mortality and a sustained birth rate, the proportion of children has increased, and that of adults has consequently diminished, the more strikingly because the number of immigrants was less considerable in 1851—61 than in the preceding 10 years. But the demand for the labour of girls in the eastern region has been such as to attract great numbers, and by that means nearly

maintain the proportion of females above 10 years of age to children at the high point at which it stood in 1851.

Tables XX and XXI are continuations of Tables XXIX and XXX of the old set,—similarly without any correction for unregistered births. The proportions of births to one marriage are, however, omitted, as not answering any useful purpose, now that we are for the first time enabled to compare the numbers of legitimate births with those of married women under 45 years of age.

The ratios of births, it will be seen, are low in Manchester and other important towns in the eastern region, and especially low in Liverpool.* They are extraordinarily high in Wigan and Ulverston, and are far above the national average in most of the rural districts.

In explanation of these facts it may be noted—first, that wherever married women are extensively engaged in laborious occupations, and indeed wherever the mortality among infants is excessive, it may reasonably be supposed that miscarriages and still-births are also excessively numerous. The conceptions may, it is submitted, be not less numerous relatively in Liverpool than elsewhere, but fewer terminate in the birth of a living child.

In the next place, allowance must be made for the unusual numbers of births unregistered, especially in Liverpool.

If these explanations taken together be not adequate, there is still another to be offered before we accept the idea that the fecundity of the women of the large towns is naturally less than that of country women. It is that, whether the American practice of abortion, which appears to have attained awful proportions in New York and Boston, or the French practices tending to hinder conceptions, have found favour with the socialist and materialist element amongst the lower classes of our large towns, either would diminish, to an extent we cannot measure, the number of living births.

The high proportions of births to the female population of mining districts is, perhaps, the result of a laxity of manners, which, while occasioning many illegitimate births, also leads to the marriage of girls who bear children rather than of those who do not. On this and many other points local information would be very interesting.

The following figures, shewing the ratios of births in the eleven

* It seems that the registered numbers of illegitimate as well as of legitimate births are few in Liverpool. It has been seen that many births escape registration; and then prostitution rather than seduction is the vice of great cities.

divisions in 1851—60, will throw some light on the question, as to what may be considered normal ratios.

Division.	Births legitimate and illegitimate to every 100 women aged 20–45.	Legitimate births to every 100 married women under 45.
I.—London	15 1	25·3
II.—South Eastern.....	17·3	27·2
III.—South Midland	18·7	28·0
IV.—Eastern	18·6	26·9
V.—South Western	17·4	28·3
VI.—West Midland.....	19·6	28·9
VII.—North Midland	19·4	28·4
VIII.—North Western	18·4	28·3
IX.—York.....	20·0	29·1
X.—Northern	20·6	30·0
XI.—Welsh	19·3	29·7
England and Wales ...	18·2	28·0

The proportions of marriages to bachelors and widowers *aged* 20—45 are also given in Table XXI, instead of, as formerly, the ratios per 100 bachelors *of all ages*. The effect is to diminish the disparity which appeared to exist between the marriage rates in the rural and town districts. It is nevertheless sufficiently evident that marriages are more frequent, in about the proportion of 7 to 5 or 6, in the manufacturing and commercial than in the agricultural districts.

The most striking lesson to be derived from this column is, however, that the ratios of marriages are even less reliable than I supposed when I wrote the remarks in the body of this paper. In Oldham, the marriage rate seems to be very low, yet Oldham contains a full proportion of young married people, and the proportion of births to 100 *women* aged 20—45 is *higher* than in Manchester. The reason is not far to seek. Most marriages are celebrated at the residence of the bride. Now although many inhabitants of Oldham marry in their own town, it would be wonderful if a large proportion did not find wives in the neighbouring City of Manchester. Hence the marriage rate in Manchester represents to a certain extent the marriages of men from Oldham and other neighbouring places, and as no corresponding number of Manchester men would appear to be married in Oldham, the rate in the latter place represents far less than the true force of the tendency to marry. It may be asked, how do the rest of the Oldham women become wives, the marriages solemnized there being too few in comparison with the total number of unmarried women, and yet there being no excess of spinsters? The explanation may be, that whilst

many wives are brought thither, spinsters go thence in considerable numbers to other not distant places, where employment suitable for them may more readily be obtained.

The only manner in which ratios less misleading, as to the proportionate numbers of marriages, could be had, would seem to be by classifying marriages under the districts in which the bridegrooms resided before marriage. This would however involve considerable labour, and might not be productive of any commensurate benefit. Even then the ratios would not in every case represent the tendency of the general public to marry, unless soldiers' marriages were separately dealt with. The following Table will make this clear :—

Division.	Marriages in ten years 1851–60.	Bachelors and Widowers aged 20–45.		Annual Marriages to every 100 Bachelors & Widowers aged 20–45.	Numbers of men in the Army and Navy aged 20 and upwards in 1861.
		1851.	1861.		
I. London	264,153	186,141	193,782	13·9	18 866
II. South Eastern	125,264	128,839	147,947	9·0	50,365
III. South Midland	87,551	83,824	75,209	11·0	2,830
IV. Eastern.....	79 503	73,850	63,856	11·5	5,456
V. South Western	137,704	117,582	106,377	12·3	17,987
VI. West Midland	199,284	156,113	156,297	12·8	3,642
VII. North Midland	99,585	85,165	78,548	12·2	1,515
VIII. North Western	257,242	191,458	197,003	13·2	4,912
IX. York	168,609	132,499	132,345	12·7	3,053
X. Northern	84,366	79,102	89,088	10·0	1,288
XI. Welsh.....	96,468	98,724	97,940	10·0	2,836
England & Wales ..	1,601,731	1,333,297	1,338,392	12·0	112,752

The greater part of the soldiery being bachelors under 45 years of age, it will be obvious how powerfully their exclusion from the calculation would tend to bring up the ratio of marriages in the South-eastern Division to the national standard.

Table XXII resembles Table XXXI of the old series, but as the Government Tables (*Supplement to Twenty-fifth Annual Report of the Registrar-General*) furnish the ratios of mortality at a greater number of ages, I have availed myself of them.

What I have elsewhere said, as to the circumstances which render these ratios somewhat unreliable at the ages 10—45, should be borne in mind in perusing these figures. It is manifest that the necessary corrections, could they be made, would generally tend to add to the apparent rates of mortality in the eastern and western regions, and to abate them in the others; so that, for example, the high female death

rates in Macclesfield inadequately represent the sacrifice of life amongst women resident there.

Lunatic asylums at Lancaster, Manchester, Warrington, Prescot, Chester, and Stockport, and hospitals at Manchester, Liverpool, Wirral, Chester, and Stockport, contribute to augment the apparent mortality at those places.

Before quitting the subject of death-rates, it may be well to refer to the different and sometimes contrary fluctuations in the numbers of deaths at different ages.

Thus, in England and Wales the following numbers of deaths were recorded :—

	Males.			
Year.	Aged 0–10.	Aged 10–55.	Aged 55 and upwards.	Total.
1856	93,311	55,832	49,732	198,875
1857	101,712	57,540	53,104	212,356
1858	111,789	59,771	55,660	227,220
1859	109,520	59,479	54,577	223,576
1860	98,363	58,802	58,073	215,238
1861	105,403	59,754	57,124	222,281
1862	105,183	60,915	56,524	222,622
1863	120,861	63,474	57,868	242,203
1864	119,306	69,711	64,602	253,619
1865	117,206	70,657	64,355	252,218

Here we may remark an increase of 10 per cent. in the deaths at the higher ages (in 1863—65), accompanied by a diminished mortality among children ; and (in 1860—63) an increase of 20 per cent. in the deaths among children, accompanied by a decrease of deaths among the aged.

The wet, cold year 1860 was in fact favourable to infant life, especially to infants in crowded neighbourhoods, but quite otherwise to persons aged 55 and upwards.

It would, perhaps, be too much to expect that in the Weekly Returns deaths among children and old people should be distinguished ; but it is certain that any sensible increase in the mortality at the ages 10—55 is more severely felt than a more considerable augmentation at lower or higher ages would be.

TABLE XII.—BIRTHPLACES OF INHABITANTS AGED 20 YEARS AND UPWARDS, 1861.

Registration Districts.	Born in				Per Centage on Adult Population.			
	The County or Counties Proper in which the Reg. Dist. is situate.	The other Counties* within the 50 mile limit.	Other parts of England and Wales.	Scotland, Ireland, Colonies, and Foreign Parts.	Born in same County or Counties.	Born in other Counties within the 50 mile limit.	Born in other parts of England and Wales.	Born in Scotland, Ireland, &c.
Ulverston	13,317	3,865	740	707	71·5	20·7	4·0	3·8
Lancaster	13,505	3,942	612	822	72·0	20·6	3·2	4·3
Garstang	6,124	285	66	108	93·0	4·3	1·0	1·6
Fylde	11,176	853	413	1,248	81·6	6·2	3·0	9·1
Clitheroe *(g)*	10,650	227	138	287	94·2	2·0	1·2	2·5
Northern Region	55,072	9,172	1,969	3,172	79·4	13·2	2·8	4·6
Burnley	31,091	6,351	719	1,817	77·8	15·9	1·8	4·5
Haslingden	28,614	4,670	1,120	2,689	77·1	12·6	3·0	7·2
Blackburn	52,097	4,224	908	5,383	83·2	6·7	1·5	8·6
Preston	47,399	4,126	1,830	6,838	78·7	6·9	3·0	11·4
Chorley	19,545	808	295	1,662	90·0	3·7	1·4	4·9
Wigan	39,654	2,189	1,187	5,624	81·5	4·5	2·4	11·6
Leigh	17,581	1,013	326	1,342	86·8	5·0	1·6	6·6
Bolton	57,465	4,514	1,353	5,966	82·9	6·5	2·0	8·6
Bury	46,044	4,398	1,071	3,360	83·9	8·0	2·0	6·1
Rochdale	38,836	6,782	1,274	3,536	77·0	13·4	2·5	7·0
Oldham	44,518	9,757	1,303	5,238	73·2	16·0	2·1	8·6
Ashton-under-Lyne *(c)*	49,456	14,589	2,089	8,256	66·5	19·6	2·8	11·1
Barton-upon-Irwell	15,580	3,223	946	1,514	73·3	15·2	4·4	7·1
Manchester	71,432	25,714	7,472	32,733	52·0	18·7	5·4	23·8
Salford	33,406	12,465	3,585	9,072	57·1	21·3	6·1	15·5
Chorlton	43,806	28,532	8,294	14,332	46·1	30·0	8·7	15·1
Stockport *(i)*	38,420	6,510	1,682	6,067	72·9	12·4	3·2	11·5
Macclesfield	24,030	7,103	1,284	2,175	69·5	20·5	3·7	6·3
Eastern Region	698,974	146,968	36,738	116,994	69·9	14·7	3·7	11·7
Ormskirk	20,105	1,777	673	1,984	81·9	7·2	2·7	8·1
Prescot	25,093	3,927	1,476	6,982	67·0	10·5	3·9	18·6
West Derby	53,329	30,904	11,553	27,078	43·4	25·2	9·4	22·0
Liverpool	49,575	26,014	11,908	69,040	31·7	16·6	7·6	44·1
Birkenhead	6,295	13,645	3,675	9,735	18·9	40·9	11·0	29·2
Wirral	5,279	2,757	703	979	54·3	28·4	7·2	10·1
Western Region	159,676	79,024	29,988	115,798	41·5	20·6	7·8	30·1
Warrington *(c)*	16,996	1,506	865	3,620	73·9	6·6	3·8	15·7
Runcorn	10,151	2,644	520	907	71·4	18·6	3·7	6·4
Altrincham	14,303	5,214	1,249	1,699	63·7	23·2	5·6	7·6
Congleton *(s)*	15,751	1,271	676	724	85·5	6·9	3·7	3·9
Northwich	14,468	1,637	450	839	83·2	9·4	2·6	4·8
Nantwich	15,675	4,458	997	785	71·5	20·3	4·5	3·6
Great Boughton *(f)*	21,745	5,800	1,875	2,461	68·2	18·2	5·9	7·7
Southern Region	109,089	22,530	6,632	11,035	73·1	15·1	4·4	7·4
Grand Totals	1,022,811	257,694	75,327	246,999	63·8	16·1	4·7	15·4

* Including Islands in the British Seas.

(c) Includes part of Cheshire. *(i)* Includes part of Lancashire. *(y)* Includes part of Yorkshire. *(s)* Includes part of Staffordshire. *(f)* Includes part of Flint.

TABLE XIII.—BIRTHPLACES OF INHABITANTS IN 1861.

Counties Proper, &c., where Born.	Living in Lancashire and Cheshire (Registration Counties.)			Living in England and Wales.	℘ cent. living in North Western Division.
	Under 20 yrs. of age.	Aged 20 yrs. & upwards.	All Ages.		
Lancashire	975,916	860,848	1,836,764	1,966,038	93·4
Cheshire	206,348	211,782	418,130	467,383	89·5
Totals	1,182,264	1,072,630	2,254,894	2,433,421	92·7
Cumberland	3,400	15,265	18,665	213,754	8·7
Westmoreland	2,510	9,817	12,327	70,101	17·6
Yorkshire	27,176	77,936	105,112	1,999,942	5·3
Nottingham	1,345	5,105	6,450	303,062	2·1
Derby	5,761	20,444	26,205	349,133	7·5
Stafford	8,280	19,906	28,186	663,151	4·1
Salop	2,478	13,108	15,586	284,162	5·5
Montgomery	354	2,233	2,587	77,590	3·3
Merioneth	182	1,173	1,355	43,573	3·1
Carnarvon	776	3,134	3,910	95,377	4 1
Anglesey	624	3,389	4,013	59,643	6·7
Denbigh	1,641	7,998	9,639	105,781	9·1
Flint	5,079	12,054	17,133	77,101	22·2
Wales, county not stated	2,407	11,124	13,531	27,461	49·3
Islands in British Seas	1,163	5,189	6,352	18,423	34·5
Totals	63,176	207,875	271,051	4,408,274	6·1
Northumberland	929	2,648	3,577	329,803	1 1
Durham	1,418	2,646	4,064	407,552	1·0
Lincoln	1,250	4,396	5,646	447,488	1·3
Rutland	34	188	222	26,977	·8
Leicester	770	2,800	3,570	265,012	1·3
Warwick	2,941	5,958	8,899	499,620	1·8
Worcester	907	2,798	3,705	316,913	1·2
Hereford	252	970	1,222	137,606	·9
Radnor	31	119	150	32,715	·5
Brecknock	34	101	135	62,138	·2
Cardigan	132	491	623	83,210	·7
Pembroke	191	795	986	107,656	·9
Carmarthen	55	295	350	136,453	·3
Glamorgan	308	540	848	225,737	·4
Monmouth	310	571	881	141,303	·6
Gloucester	1,340	4,065	5,405	490,883	1·1
Oxford	228	971	1,199	197,891	·6
Northampton	667	1,780	2,447	246,805	1·0
Huntingdon	181	393	574	75,354	·8
Cambridge	760	1,097	1,857	193,044	1.0
Norfolk	694	2,303	2,927	500,909	·6
Suffolk	401	2,004	2,405	400,604	·6
Essex	369	1,293	1,662	437 494	·4
Middlesex, extra metropolitan	119	398	517	132,604	·4
London	6,279	15,268	21,547	2,061,093	1·0
Hertford	150	554	704	192,461	·4
Bedford	208	653	861	141,497	·6
Buckingham	341	1,007	1,348	193.891	·7
Berks	197	807	1,004	196,223	·5
Wilts	273	1,140	1,413	305,871	·5
Somerset	795	3,012	3,807	499 191	·8
Devon	985	4,126	5,111	627,718	·8
Cornwall	392	1,765	2,157	390,851	·6
Dorset	202	831	1,033	209,340	·5
Hants	658	2,010	2,668	442,122	·6
Surrey, extra metropolitan	238	816	1,054	221,151	·5
Sussex	307	1,195	1,502	372,393	·4
Kent, extra metropolitan	763	2,523	3,286	549.085	·6
England, county not stated	..	..	..	102	..
Totals	26,039	75,327	101,366	12,296,780	·8
Scotland	9,472	33 210	42,682	169,202	25·2
Ireland	46,082	199,961	246.043	601,634	40·9
Brit. Colonies & East Indies	2,267	3,223	5,490	51,572	10 6
Foreign Parts	3,284	10,254	13,538	101,832	13·3
Born at sea	125	351	476	3,509	13·6
Totals	61.230	246,999	308,229	927,749	33·2
Grand Totals	1,332,709	1,602,831	2,935,540	20,066,224	14·6

TABLE XIV.

Civil Counties, &c.	Persons born there found in Lancashire and Cheshire (Civil Counties).				Persons born in Lancashire and Cheshire (Civil Counties) found there.			
	1851	1861	Approx. Deaths.	Immi-gration.	1851	1861	Approx. Deaths.	Emi-gration.
Cumberland	16,419	16,661	3,330	5,572	4,138	5,173	825	1,860
Westmorland	10,894	12,304	2,200	3,610	4,722	5,072	870	1,220
Yorkshire	81,510	102,728	17,300	38,518	36,593	42,090	7,000	12,427
Nottingham	5,041	6,463	1,100	2,522	1,438	2,059	310	931
Derby	24,664	26,518	4,860	6,714	9,879	12,144	1,960	4,225
Stafford	21,167	25,386	4,420	8,639	13 948	19,323	2,930	8,325
Salop	13,928	15,863	2,830	4,765	4,299	5,093	835	1,629
Montgomery	2,180	2,571	450	841	313	487	70	244
Merioneth	1,347	1,351	260	264	195	235	40	80
Carnarvon	3,436	3,878	700	1,142	1,021	1,292	205	476
Anglesey	3,777	3,999	740	962	871	1,111	175	415
Denbigh	10,278	9,545	1,880	1,147	2,413	3,299	510	1,396
Flint	11,242	11,689	2,180	2,627	3,253	3,985	640	1,392
Wales (county not stated)	8,471	13,530	2,090	7,149	..	..	..	..
	214,354	254,486	44,340	84,472	83,063	101,293	16,990	34,620
Northumberland	2,901	3,570	615	1,284	1,963	1,977	290	1,004
Durham	2,912	4,051	660	1,799	2,569	4,814	650	2,895
Lincoln	3,454	5,644	865	3,055	1,300	1,391	240	331
Rutland	148	221	35	108	48	50	10	12
Leicester	2,495	3,571	575	1,651	722	1 000	150	428
Warwick	6,019	8,866	1,415	4,262	4,923	6,709	1,030	2,816
Worcester	2,544	3,693	590	1,739	1,312	2,001	295	984
Hereford	848	1,224	200	576	220	481	60	321
Radnor	124	149	25	50	52	63	10	21
Brecknock	96	135	20	59	82	104	15	37
Cardigan	522	621	110	209	108	121	20	33
Pembroke	849	981	175	307	141	381	45	285
Carmarthen	334	350	65	81	106	109	20	23
Glamorgan	544	845	135	436	529	1,143	150	764
Monmouth	454	880	125	551	389	501	80	192
Gloucester	3,743	5,413	870	2,540	1,730	2,272	355	897
Oxford	792	1,198	190	596	355	387	65	97
Northampton	1,583	2,437	380	1,234	759	788	135	164
Huntingdon	286	575	80	369	86	119	20	53
Cambridge	609	1,854	230	1,475	474	322	70	* 82
Norfolk	1,938	2,926	460	1,448	616	620	110	114
Suffolk	1,948	2 403	415	870	339	473	70	204
Essex	1,432	1,663	295	526	751	1,263	180	692
Middlesex (extra Metrop.)	498	520	95	117	687	1,008	150	471
London	16,979	21,565	3,655	8,241	18,600	23,262	3,720	8,382
Hertford	506	703	115	312	391	472	75	156
Bedford	508	857	130	479	239	291	45	97
Buckingham	959	1,344	220	605	294	611	80	397
Berks	764	1,004	170	410	392	508	80	196
Wilts	1,040	1,412	235	607	270	439	60	229
Somerset	2,882	3,802	635	1,555	718	1,141	165	588
Devon	4,070	5,108	875	1,913	981	2,485	310	1,814
Cornwall	1,678	2,156	365	843	240	397	55	212
Dorset	789	1,036	170	417	278	501	70	293
Hants	2,192	2,663	460	931	1,488	3,516	445	2,473
Surrey (extra Metrop.)	757	1,054	170	467	} 2,252	4,357	585	2,690
Kent do. do.	2,881	3.294	585	998				
Sussex	1,103	1,506	250	653	832	1,433	200	801
	74,181	101.294	16,660	43,773	46,536	67,510	10,110	31,084
Islands in British Seas	5,849	6,348	1,165	1,664	..	..	..	..
Scotland	31,061	42,656	7,000	18,595	..	..	..	..
Ireland	214,218	245,933	52,900	84,615	..	..	..	..
Brit. Colonies & E. Indies	3,291	5,498	850	3.057	..	..	..	..
Foreign Parts	8,028	13,559	2,000	7,531	..	..	..	..
Born at Sea	400	476	85	161	..	..	..	..
	262,847	314,470	64,000	115,623	..	.	..	68,132
Totals	..	..	..	943,868	..	..	..	153,836

* These natives of Lancashire and Cheshire would seem to have returned from Cambridgeshire.

TABLE XV.

	Estimated Births registered April, 1856 to April, 1861.	Estimated deaths among the same children.	Living in April, 1861 (except unregistered births).	Living according to the Census.	Rectified Number living.*	Probable number of unregistered Births.	
						Number.	Per cent.
Ulverston	6,306	912	5,394	5,354	5,479	85	1·3
Lancaster	5,829	851	4,978	4,825	4,937	— 41	..
Garstang	2,029	260	1,769	1,757	1,798	29	1·4
Fylde	3,847	650	3,197	3 344	3,422	225	5·8
Clitheroe	3,149	498	2,651	2,631	2,693	42	1·3
Northern Region	21,160	3,171	17,989	17,911	18,329	340	1·6
Burnley	13,004	2,982	10,022	10,397	10,639	617	4·7
Haslingden	11,805	2,633	9,172	9,447	9,667	495	4·2
Blackburn	22,610	5,653	16,957	17,669	18,081	1,124	5·0
Preston	20,199	5,368	14,831	14,904	15,252	421	2·1
Chorley	7,310	1,452	5,858	5,859	5,996	138	1·9
Wigan	19,170	4,905	14,265	14,451	14,788	523	2·7
Leigh	7,009	1,623	5,446	5,265	5,388	— 58	..
Bolton	25,623	6,192	19,431	18,341	18,769	— 562	..
Bury	17,064	3,765	13,299	13 339	13,650	351	2·1
Rochdale	14,857	3,385	11,472	11,813	12,089	617	4·2
Oldham	19,909	5,076	14,833	15,332	15,690	857	4·3
Ashton-under-Lyne	23,506	6,247	17,259	17,421	17,827	568	2·4
Barton-upon-Irwell	6,206	1,226	4,980	5,094	5,213	233	3 8
Manchester	41,904	12,780	32,124	32,607	33,460	1,336	3·0
Salford	18,555	4,773	14,182	14,625	14,864	682	3·6
Chorlton	29,510	6,761	22,749	23,306	23,850	1,101	3·7
Stockport	16,122	3,922	12,200	11,768	12,043	— 157	..
Macclesfield	10,211	2,231	7,980	7,587	7,764	— 216	..
Eastern Region	328,034	80,974	247,060	249,215	255,030	7,970	2·4
Ormskirk	7,483	1,288	6,195	6,443	6,593	398	5·3
Prescot	14,427	2,887	11,540	11.817	12,093	553	3·8
West Derby	37,543	8,542	29,001	32,738	33,502	4,501	12·0
Liverpool	44,879	15,426	29,453	34,838	35,651	6,198	13 8
Birkenhead, Wirral	13,670	2,670	11,000	8,752 / 2,479	8,956 / 2,537	493	3·6
Western Region	118,002	30,813	87,189	97,067	99,332	12,143	10·3
Warrington	8,714	1,848	6,866	6,913	6,972	106	1·2
Runcorn	4,781	838	3,943	3,840	3,930	— 13	..
Altrincham	6,280	1,062	5,218	5,329	5,453	235	3·7
Congleton	5,877	1,261	4,616	4,696	4,805	189	3·2
Northwich	6,250	1,142	5,108	4,936	5,051	— 57	..
Nantwich	7,116	1,336	5,780	5,860	5,997	217	3·0
Great Boughton	8,871	1,644	7,227	7,574	7,751	524	5·9
Southern Region	47,889	9,131	38,758	39,048	39,959	1,201	2·5
Grand Totals	4515,085	124,089	390,996	4 03,241	412,650	21,654	4 2

* The Census number plus 2½ per cent. The negative number of unregistered births in Lancaster and other districts shews that this allowance is probably in those cases inadequate.

† Births 1856 to 1860 plus the difference between births in first quarter of 1856 and the same quarter of 1861, viz., 1,050.

TABLE XVI.—MOVEMENT OF POPULATION (NETT IMMIGRATION OR EMIGRATION) ASSUMING THE UNREGISTERED BIRTHS TO HAVE BEEN 75,000 IN 1841-50, AND 50,000 IN 1851-60.

	Probable Movement 1841-51.				Probable Movement 1851-61.				Probable Immigration in 1851-61.	
	Immigration.		Emigration.		Immigration.		Emigration.			
	Males	Females	Males	Fem.	Males	Females	Males	Fem.	From Ireland, Sc'tland &c., (not incl. Islands)	From Co'nties beyond the 50 mile limit.
Ulverston	..	..	298	557	..	..	188	98	486	491
Lancaster	..	..	2 066	1,530	..	..	1,753	1,572	402	311
Garstang	..	..	1,188	977	..	..	1,091	1,020	* 13	37
Fylde	..	..	1,730	670	..	593	189	..	1,099	387
Clitheroe	..	..	1,797	1,859	..	..	2,249	1,831	178	38
Northern Region	..	..	7,069	5,563	..	..	5,470	3,928	2,092	1,264
Burnley	..	..	658	460	..	1,325	243	..	1,314	619
Haslingden	77	380	..	..	3,976	5,566	..	..	2,740	1,809
Blackburn	..	577	98	..	4,481	7,323	..	..	5,171	724
Preston	3,594	4,828	..	..	..	2,758	1,226	..	4,146	1,361
Chorley	..	..	4,152	3,256	..	..	1,675	515	521	209
Wigan	1,513	423	..	..	1,388	905	..	..	3,318	998
Leigh	..	159	180	..	..	476	390	..	1,143	271
Bolton	1	835	..	..	..	174	2,405	..	3,039	615
Bury	..	..	1,289	357	..	264	1,483	..	2,469	549
Rochdale	204	729	..	..	3,048	4,828	..	..	3 269	1,263
Oldham	568	1,111	..	..	4,309	5,035	..	..	4,339	1,004
Ashton-under-Lyne	1,115	1,530	..	..	..	2,810	1,850	..	3,380	736
Barton-upon-Irwell									952	759
Manchester	25,976	33,930	..	..	5,149	17,324	..	..	6,835	3,571
Salford									4,569	1,593
Chorlton									8,432	6,321
Stockport	..	..	3,501	1,656	..	..	4,370	1,921	2,333	725
Macclesfield	494	1,378	..	..	..	..	5,061	2,663	* 211	281
Eastern Region	23,564	40,151	..	..	3,648	43,689	..	..	57,759	23,408
Ormskirk	..	..	1,583	1,233	..	1,502	465	..	1,041	563
Prescot	2,090	2,100	..	..	2,168	2,273	..	..	3,C16	990
West Derby									15,925	7,554
Liverpool	34,015	43,639	..	..	24,274	27,429	..	..	23.684	3,044
Birkenhead and Wirral									6,052	2,832
Western Region	34,522	44,506	..	..	25,977	31,204	..	..	49,698	14,983
Warrington	..	..	854	1,471	347	161	..	..	1,236	651
Runcorn					..	..	1,413	1,597	566	344
Altrincham	..	..	729	344	..	1,199	117	..	1,070	914
Congleton	..	140	563	..	..	147	443	..	340	357
Northwich	..	..	1,416	1,123	..	..	1,699	1,422	182	244
Nantwich	..	..	415	269	..	..	703	568	226	676
Great Boughton	1,562	711	..	..	..	539	434	..	797	1,004
Southern Region	..	..	2,415	2,356	..	..	4,402	1,541	4,417	4,190
Grand Totals	48,702	76,708	..	..	19,693	69,424	..	..	113,966	43,845

* These two figures represent Emigration in excess of Immigration.

TABLE XVII.—CIVIL CONDITION OF ADULT POPULATION IN 1861.

Registration Districts.	Per centage of Males aged 20 yrs. and upwards who were			Per centage of Females aged 20 years and upwards who were			Number of Adult Females to 100 Adult Males in similar condition.			
	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Total living.	Unmarried.	Married.	Widowed.
Ulverston	33·2	59·2	7·6	26·3	61·1	12·7	96·3	76·1	99·4	161·1
Lancaster	31·8	60·5	7·7	31·2	55·4	13·4	109 9	108 1	100·6	190·4
Garstang	34·3	57·5	8·2	29·1	60·9	9·9	93 2	79·2	98·7	113·7
Fylde	29·0	63·6	7·4	34·1	54 6	11 3	119·3	140·2	102.4	182·1
Clitheroe	33·7	57·4	8·9	30 5	57·2	12·3	100·1	90·7	99·7	138·9
Northern Region	32·2	59·9	7 9	30 2	57·5	12·3	104·5	98·1	100 3	163·4
Burnley	26 7	66 2	7·1	26·4	62 9	10·7	105·7	104·6	100·4	158·6
Haslingden	25·8	67·4	6·7	25·9	63·3	10 8	106 5	106·7	100·0	170·2
Blackburn	25·0	68·6	6·5	26·1	63 5	10 4	108·9	114·0	100·8	174·9
Preston	27·0	65·7	7 3	31·6	56·2	12·2	120 2	140·6	102·8	202·4
Chorley	29·0	62·3	8·7	29·8	60·1	10 1	104·4	107·4	100·9	120·3
Wigan	28·7	64·5	6·8	24·0	64·2	11·8	99·1	82·8	98 7	173·1
Leigh	26·0	65·7	8·3	28·1	60·4	11·5	110·1	119 3	101·3	151·7
Bolton	25·8	67·5	6·8	26·8	60 7	12·5	112·3	116·6	101·1	207·8
Bury	27·1	66·0	6·8	28·0	60·5	11 5	110·1	113·6	101·0	184·7
Rochdale	26·8	66 7	6·5	26·8	61·5	11·7	109·1	108·9	100·7	195·6
Oldham	25 6	66·0	6·4	23 8	64 8	11·4	105·9	98·2	100 9	189 4
Manchester	25·9	67·8	6·4	26·6	57·9	15·4	117·9	121·3	100·8	286·8
Salford	25·8	68·5	5·7	28·5	58·1	13·3	120·2	132·6	101·9	262·0
Chorlton	27 3	67·2	5·4	29·8	56·9	13·3	120·1	130 8	101·6	295·4
Barton-upon-Irwell	28·1	64·5	7·4	32·8	54·5	12·6	119·5	139·5	100·9	205·0
Ashton-under-Lyne	23·7	69 8	6·5	27·9	59·6	12·5	120·4	141·6	102·8	233·7
Stockport	23·7	68·7	7 6	28·9	57·9	13·2	122·7	149·5	103 4	213·9
Macclesfield	26 0	65·5	8 5	30·1	57 6	12·3	116 1	134·4	102·1	167·6
Eastern Region	26·1	67 2	6·7	27·7	59·8	12·5	113·8	130·3	101·3	213·5
Ormskirk	31·4	61·1	7·5	33·7	54·2	12·1	114·5	123·2	101·5	184·0
Prescot	29·1	64·9	6·0	22·9	66·0	11·1	97·6	76·8	99·1	181·4
West Derby	26·8	67 4	5·8	28·6	57 5	14·0	122·3	130·2	104·3	296·0
Liverpool	32·0	62·2	5·8	24 5	58·9	16·5	106·4	81·9	100·7	302·5
Birkenhead	31·3	64·2	4·5	29·5	58·6	12·0	109·8	103·6	100·0	292·5
Wirral	28·7	64 7	6·6	32·9	55·2	11·9	118·3	135 3	100·9	215·4
Western Region	29 9	64·2	5·8	27·0	58·6	14·4	111·4	100 5	101·7	274·9
Warrington	28·4	65 7	5·9	24·0	64·3	11·7	101·4	85 7	99·2	200·6
Runcorn	29·6	63 9	6·5	21·3	65·8	12·9	95·4	68·8	98·1	189·0
Altrincham	32·1	60·2	7·7	34·5	53 7	11·8	112·3	120·6	100 2	172·1
Congleton	25·1	67·3	7 6	25 6	63·3	11 1	106·5	108·4	100 2	155·1
Northwich	24·9	67·1	8·0	21·0	67·2	11·8	101·3	85·2	101·5	150·3
Nantwich	27·3	65·8	6·9	23·8	65·9	10 3	96·5	86 2	98·6	146·7
Great Boughton	29·2	63·5	7·3	29·6	56·7	13·8	111·3	112·9	99·3	208·7
Southern Region	28·2	64·6	7·1	26·4	61·5	12 0	104·6	98·0	99·6	176·3
North Western Division	27·5	65·9	6·6	27·5	59 6	12·9	111·9	111·5	101·2	220·0

TABLE XVIII.—CIVIL CONDITION. PROPORTIONS OF UNMARRIED, MARRIED & WIDOWED PERSONS TO 1000 HUSBANDS & WIVES OF ALL AGES.

	Males and Females aged 20 yrs. & upwards	Males aged 20–35.			Females aged 20–35.			Males aged 35–45.			Females aged 35–45.			Males aged 45 and upwards.			Females aged 45 and upwards.		
		Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.	Unmarried.	Married.	Widowed.
Ulverston	1657	201	152	4	144	184	5	33	142	8	26	136	11	46	206	52	44	175	87
Lancaster	1724	174	142	4	182	176	6	39	140	7	40	134	15	48	216	52	60	190	100
Garstang	1687	194	136	3	167	170	4	46	133	6	32	129	6	60	231	62	39	197	71
Fylde	1697	153	143	1	217	174	6	30	137	7	44	139	14	42	211	50	54	191	85
Clitheroe	1744	194	141	3	175	172	5	43	135	10	42	130	9	57	223	64	49	196	94
Northern Region	1700	182	145	3	176	176	5	37	138	8	37	135	12	49	215	54	51	188	90
Burnley	1537	151	191	5	161	209	7	25	135	8	25	137	12	23	170	40	23	151	65
Haslingden	1524	152	197	4	161	214	7	21	136	6	24	138	13	18	165	40	19	145	65
Blackburn	1507	141	205	5	163	225	6	20	134	6	23	132	13	19	155	35	20	142	63
Preston	1640	155	184	4	213	214	9	22	129	7	35	132	18	24	176	43	34	158	82
Chorley	1627	158	166	4	176	188	6	29	130	7	35	132	10	44	200	59	37	180	68
Wigan	1543	171	195	4	138	217	7	26	140	6	22	134	14	26	165	42	24	142	69
Leigh	1580	145	179	4	165	205	8	20	134	8	31	135	13	30	181	51	37	161	74
Bolton	1557	146	188	3	170	215	8	20	136	6	27	136	14	24	171	40	24	150	81
Bury	1578	160	179	5	179	204	7	22	139	6	29	141	13	22	177	40	23	155	75
Rochdale	1556	153	190	4	172	212	7	24	140	6	26	139	15	22	167	39	19	147	73
Oldham	1499	150	199	5	145	224	7	19	137	6	21	135	13	17	159	35	17	140	68
Manchester	1590	150	190	4	179	227	12	20	140	7	27	139	24	19	164	35	23	132	97
Salford	1581	154	192	4	190	230	11	18	140	6	30	135	20	13	160	31	25	136	85
Chorlton	1614	172	195	4	204	230	11	16	146	7	33	142	20	13	152	29	26	129	86
Barton-upon-Irwell	1684	164	169	4	225	199	10	23	136	5	40	134	19	28	190	47	36	167	88
Ashton-under-Lyne	1548	134	188	5	182	215	9	17	135	6	29	138	18	16	167	34	24	150	80
Stockport	1582	131	178	4	193	212	8	18	132	7	32	135	17	19	178	43	27	157	90
Macclesfield	1625	139	146	4	190	184	7	28	143	7	38	141	14	29	203	53	34	177	86
Eastern Region	1572	151	188	4	178	217	9	21	138	7	28	137	17	20	168	38	25	146	80
Ormskirk	1735	188	161	4	219	189	8	33	131	8	44	134	15	32	203	49	50	179	89
Prescot	1519	175	199	4	128	227	7	26	139	7	21	132	14	23	160	34	22	137	63
West Derby	1607	161	178	4	193	235	12	19	151	8	30	146	21	14	158	30	30	128	90
Liverpool	1641	202	178	4	163	237	17	30	154	9	23	145	29	22	163	34	22	116	94
Birkenhead	1622	202	184	4	195	228	10	24	159	7	29	149	17	15	155	24	26	120	74
Wirral	1672	169	148	3	223	183	9	25	139	4	38	138	15	26	209	43	37	179	84
Western Region	1622	184	179	4	176	230	13	26	150	8	27	143	23	20	164	33	27	127	87
Warrington	1628	166	199	4	136	226	7	24	141	6	22	135	14	26	158	35	26	133	69
Runcorn	1532	180	173	4	119	196	7	23	133	7	19	128	10	29	195	40	21	168	80
Altrincham	1756	192	149	3	231	184	7	34	143	7	43	137	13	40	205	53	46	177	90
Congleton	1523	135	170	5	153	202	6	23	135	6	24	132	10	27	191	45	24	164	71
Northwich	1479	139	165	5	118	197	5	21	125	6	17	128	9	23	202	48	21	176	73
Nantwich	1510	158	165	4	135	189	4	22	136	5	22	131	8	28	201	43	22	174	65
Great Boughton	1662	170	157	3	182	184	7	28	138	7	33	134	15	31	205	48	44	178	99
Southern Region	1577	163	168	4	156	197	6	25	136	6	26	133	12	29	194	45	31	167	79
North Western Division	1589	161	182	4	176	217	9	23	140	7	28	138	17	22	171	38	27	145	82

TABLE XIX.—POPULATION OF EACH SEX AT THE HIGHER AGES TO EVERY 100 CHILDREN UNDER TEN YEARS OF AGE IN 1861.

Registration Districts.	Males.					Females.					Total Population all ages.
	10–25	25–40	40–55	55–65	65 and upw.	10–25	25–40	40–55	55–65	65 and upw.	
Ulverstone	51·4	36·0	25·2	10·1	8·3	47·3	34·3	24·0	9·4	9·9	355·8
Lancaster	54·5	36·2	29·0	12·0	9·2	51·8	40·3	29·8	12·8	11·5	390·1
Garstang	57·5	35·5	27·0	14·1	12·1	51·9	37·2	22·5	11·5	11·1	380·4
Fylde	58·8	33·8	28·2	11·5	9·8	53·6	42·6	31·0	11·7	10·9	401·7
Clitheroe	64·5	41·3	31·0	14·7	13·1	59·1	42·8	30·4	13·9	12·6	422·4
Northern Region	56·1	36·3	27·8	11·9	9·8	54·6	39·0	27·7	11·6	11·0	385·8
Burnley	59·7	40·3	25·9	9·7	6·0	62·4	43·2	26·9	9·7	6·3	389·9
Haslingden	61·8	41·6	27·0	9 6	5·3	67·0	44·6	27·9	9·7	5·8	400·4
Blackburn	56·8	38·6	23·8	8·5	5·0	62·3	42·7	24·9	9·0	5·4	377·0
Preston	60·2	38·7	25·8	10·3	7·0	68·1	48·1	30·3	11·4	7·4	407·2
Chorley	56·4	34·7	26·6	11·8	8·1	60·4	38·6	26·4	10·6	7·8	381·4
Wigan	57·2	38·1	23·7	8·8	5·5	54·8	37 3	23·5	8·7	6·1	363·8
Leigh	54·3	38·1	25·8	11·0	7·8	62·8	42·4	27 5	10·9	8·6	389·1
Bolton	56·3	38·2	25·4	9·6	5·8	60 9	43·8	27·1	10·2	7 0	384·2
Bury	60 3	40·7	27·5	10·0	6·4	64·0	46·5	28·9	10·5	7·2	402 0
Rochdale	63·2	43·8	28·3	10·2	6·3	66·7	48·8	29·6	10·6	7·0	413·6
Oldham	59·8	43·5	26·7	9·3	5·3	61·0	46·4	27·9	10·0	5·9	395·8
Manchester	56 9	44·0	29·0	9·6	4·8	63·9	51·6	32·4	11·1	6·5	409·6
Salford	58·0	42·8	26·8	8·9	4·1	65·4	51·1	30·7	10·9	6·1	404·8
Chorlton	57·2	44·5	25·8	8·1	3·7	62·9	52·0	30·3	10·2	5·6	400·3
Barton-upon-Irwell	58·3	38·4	26·7	10·9	7·4	66·8	47·6	30·3	11·3	8·5	406·3
Ashton-under-Lyne	60 8	41·9	28·5	9·8	5·2	69·3	51·0	32·9	11·4	6·5	417·4
Stockport	60·2	40·5	29·3	11·4	6·7	70·4	51·3	34·0	12·7	7·4	423·8
Macclesfield	56·3	40·3	31·8	13·3	8·7	64 7	49·4	34·1	12·8	9·7	421·2
Eastern Region	58·5	41·2	26 9	9 7	5·6	64·0	47·3	29·4	10·6	6·6	399·8
Ormskirk	54·7	35·6	24·4	10·8	7·6	59·0	41·2	27·3	11·7	8·9	381·3
Prescot	51·5	38·2	23·2	7·6	4·2	49·2	37·1	21·7	7·8	5·3	345·7
West Derby	50·6	39·8	26·0	7·4	3·7	58·6	48·9	28·4	9·6	5·9	378·9
Liverpool	61·7	50·7	34·4	9·6	3·9	63·2	54·2	34·5	10·3	5·7	428·3
Birkenhead	54·1	43·5	26 2	6·9	3·1	57·9	47·6	26·9	8 2	4·9	379·2
Wirral	56 5	35·6	25·6	10·0	8·1	62·5	42·7	28·2	11·0	9·2	389·2
Western Region	55·4	43·4	28·5	8·5	4·2	59·2	48 6	29·5	9·7	6·0	393·0
Warrington	52·7	38·8	23·5	8·3	5·2	51 3	38·8	22·5	8 7	6·7	356·5
Runcorn	59·2	40·0	26·0	11·0	7·4	50·6	37·1	25 2	10·9	8·9	376 2
Altrincham	55·5	38·6	28·0	12·6	8·5	59·7	46·4	28·6	12·7	9·5	400·2
Congleton	56 8	38·9	28 0	11·5	8·4	62 0	41·3	28·4	10·6	8·6	394·6
Northwich	50·9	35·9	24·1	11·0	8·4	49·9	35·8	24·2	10·6	9·0	359·9
Nantwich	54·8	38·1	26·7	11·2	9·1	54·1	38·9	25·1	10·6	9·7	378·3
Great Boughton	58·9	38·9	28·6	11·6	8·7	61·2	43·0	30·3	12·1	11·7	405·2
Southern Region	55·5	38·4	26·5	11·0	7·9	55·9	40·4	26·5	10·9	9·3	382·4
N. Western Division	57·3	41·2	27·3	9·6	5·7	61·6	46·6	29·1	10·4	6·9	395·8

TABLE XX.

	In the Years 1851-60 inclusive.					Actual Increase between Censuses 1851-61.		Actual compared with Natural Increase.			
				Excess of Births over Deaths.				Males.		Females.	
	Marriages.	Births.	Deaths.	Males.	Fem.	Males.	Fem.	Excess.	Deficiency.	Excess.	Deficiency.
Ulverstone....	2,344	11,812	6,644	2,697	2,471	2,659	2,523	..	38	52	..
Lancaster	2,814	11,638	7,976	1,850	1,812	247	390	..	1,603	..	1,422
Garstang.....	788	3,984	2,243	864	877	– 177	– 93	..	1,041	..	970
Fylde	1,574	7,475	4,499	1,536	1,440	1,497	2,183	..	39	743	..
Clitheroe.....	1,596	6,502	4,474	1,096	932	– 1,073	– 819	..	2,169	..	1,751
Northern Reg.	9,116	41,411	25,836	8,043	7,532	3,153	4,184	..	4,890	..	3,348
Burnley	6,073	25.629	16,484	4,818	4,327	5,325	6,402	507	..	2,075	..
Haslingden ..	5,541	22,101	13,486	4,499	4,116	9,075	10,282	4,576	..	6,166	..
Blackburn	10,180	42,610	27,750	7,641	7,219	13,392	15,812	5,751	..	8,593	..
Preston	10,669	39,176	28,130	5,792	5,254	5,266	8,712	..	526	3,458	..
Chorley	2,879	14,342	8,575	2,987	2,780	1,512	2,465	..	1,475	..	315
Wigan	7,695	36,296	23,067	6,559	6,670	8,697	8,325	2,138	..	1,655	..
Leigh	3,047	13,433	8,853	2,280	2,300	2,040	2,926	..	240	626	..
Bolton.....	11,232	50,712	32,924	8,942	8,846	6,537	9,020	..	2,405	174	..
Bury.....	7,817	34,325	21,986	6,423	5,916	5,540	6,780	..	883	864	..
Rochdale.....	8,261	29,229	19,466	4,822	4,941	8,670	10,569	3,848	..	5,628	..
Oldham	6,528	38,174	25,130	6,668	6,376	12,027	12,461	5,359	..	6,085	..
Manchester Salford..... Chorlton .... Barton-upon-Irwell	57,060	196,771	142,286	28,591	25,894	38,540	48,018	9,949	..	22,124	..
Ashton-under-Lyne.....	11,114	46,646	33,852	6,849	5,945	5,899	9,655	..	950	3,710	..
Stockport	10,142	33,286	23,643	5,360	4,283	1,390	2,762	..	3,970	..	1,521
Macclesfield ..	5,521	21,040	15,500	3,152	2,388	– 1,709	– 75	..	4,861	..	2,463
Eastern Reg.	163,759	643,770	441,132	105,383	97,255	122,201	154,114	16,818	..	56,859	..
Ormskirk	2,735	14,349	8,141	3,171	3,037	3,056	4,889	..	115	1,852	..
Prescot	4,879	26,568	15,256	5,640	5,672	8,458	8,595	2,818	..	2,923	..
West Derby Liverpool .. Birkenhead Wirral	56,156	182,086	144,034	19,409	18,643	52,183	54,572	32,774	..	35,929	..
Western Reg	63,770	223,003	167,431	28,220	27,352	63,697	68,056	35,477	..	40,704	..
Warrington....	3,948	16,384	9,581	3,398	3,405	3,945	3,766	547	..	361	..
Runcorn	1,959	9,353	5,548	1,881	1,924	568	427	..	1,313	..	1,497
Altrincham....	2,012	12,179	7,387	2,458	2,334	2,641	3,833	183	..	1,499	..
Congleton	2,610	11,118	7,566	1,952	1,600	1,789	2,027	..	163	427	..
Northwich	2,009	12,209	7,193	2,562	2,455	983	1,153	..	1.579	..	1,302
Nantwich	2,636	13,573	7,788	3,027	2,758	2,574	2,440	..	453	..	318
Gt. Boughton..	5,423	16,820	12,374	2,378	2,068	2,444	3,107	66	..	1,039	..
Southern Reg.	20,597	91,636	57,436	17,656	16,544	14,944	16,753	..	2,712	209	..
Nor. West. Div.	257,242	999,820	691,835	159,302	148,683	203,995	243,107	44,693	..	94,424	..

TABLE XXI.

Registration Districts.	Annual average proportions in 1851–60 to 1000 persons living.				Annual average proportions in 1859–63.			
	Marriages.	Births.	Deaths.	Actual increase of population.	Births to 100 women aged 20–45.	Legitimate births to 100 married women aged under 45.	Illegitimate births to 100 single women aged 15–45.*	Marriages to 100 bachelors & widowers aged 20–45.
Ulverstone	7·07	35·64	20·04	15·63	23·09	32·7	3·4	9·00
Lancaster.....	8·05	33·27	22·80	1·82	18·83	31·0	1·8	10·87
Garstang	6·27	31·72	17·86	– 2·15	20·50	31·8	2·4	8·36
Fylde	6·60	31·35	18 87	15·43	17·79	30·5	2·1	11·97
Clitheroe	7·45	30·35	20·89	– 8·83	18·73	30·7	1·8	10·15
Northern Region ..	7·24	32·88	20·51	5·83	19 84	31·4	2·3	10·11
Burnley.....	8·71	36·75	23·64	16·82	19·45	27·7	2·7	13·83
Haslingden	9·22	36·77	22 44	32·21	18·80	27·9	1·5	14·21
Blackburn	9·66	40·45	26·34	27·72	21·28	31·2	1·8	15·52
Preston.....	10·30	37·84	27·17	13 50	18·79	30·5	2·2	15·80
Chorley.....	7·25	36·14	21·61	10·02	20·66	31·7	2·6	11·21
Wigan	8·94	42·18	26·81	19·78	24·23	33·1	4·5	12·55
Leigh.....	8·65	38·14	25·14	14·10	21·47	31·3	3·2	14·06
Bolton	9·17	41·40	26·88	12·70	21·06	31·3	2·5	15·16
Bury	8·23	36·14	23·15	12·97	17·93	27·7	1·6	11·89
Rochdale	10·06	35·59	23·70	23·42	17·33	26·3	1·5	13·05
Oldham.....	6·59	38·55	25·38	24·73	19·24	27·1	2·0	10·93
Manchester, Salford, Chorlton, and Barton-upon-Irwell	11·09	38·23	27·65	16·82	17·34	27·1	1·8	16·08
Ashton-under-Lyne	8·75	36·74	26·66	12·25	17·34	26·7	1·8	14·73
Stockport.....	10·99	36·07	25·62	4·50	16·35	25·6	1·8	17·95
Macclesfield	8·84	33·70	24·83	– 2·86	16·70	26·3	2·4	13·25
Eastern Region	9·66	37·99	26·03	16·31	18·62	28·2	2·1	14·63
Ormskirk	6·47	33·94	19·26	18·79	18·58	31·7	2·2	9·65
Prescot.....	7·55	41·13	23·62	26·40	23·85	32·9	2·2	10 29
Liverpool, West Derby, Birkenhead, and Wirral	10·76	34·88	27·59	20·45	16·95	26·5	1·1	14·13
Western Region....	10·14	35·46	26·62	20·95	17·67	27·4	1·2	13·46
Warrington	9·87	40·94	23·94	19·27	22·68	31·4	2·3	13·03
Runcorn	7·45	35·57	21·10	3·78	23·28	31·4	3·0	8·91
Altrincham.....	5·40	32·67	19·81	17·37	16·94	29·5	1·9	7·64
Congleton.....	8·05	34·29	23·34	11·77	19·61	27·6	2·9	13·59
Northwich	6·23	37·83	23·29	6 62	23·58	30·9	3·7	11·23
Nantwich	6·78	34·88	20·02	13·04	21·70	29·5	3·4	11·24
Great Boughton.....	9·72	30·14	22·18	9·96	17·69	28·1	2·0	15·67
Southern Region ..	7·83	34·84	21·84	12·08	20·34	29·6	2·6	11·77
North Western Division	9·49	36·87	25·51	16·49	18·58	28·3	1·9	13·83
England and Wales	8·43	34·07	22·17	11·26	18·74	28·3	1·9	12·54

* Unmarried and widows.

TABLE XXII.—Average Annual Death-rates Per Cent. in the Years 1851-60 for each Sex at several periods of Life.

	Age 0-5 yrs.		5—		10—		15—		20—		25—		35—		45—		55—		65—		75—		85 & upwards	
	Males.	Females.	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Ulverston	4·821	4·360	·799	·795	·583	·595	·658	·728	1·022	1·197	·971	1·086	1·180	1·077	1·599	1·379	2·896	2·731	5·996	5·474	15·271	12·784	27·778	23·962
Lancaster	5·817	5·022	·828	1·025	·560	·525	·711	·891	·978	·883	1·289	1·285	1·730	1·470	2·181	1·885	3·512	2·461	7·655	5·743	16·730	12·560	25·455	33·125
Garstang	4·058	3·613	·784	·729	·493	·417	·594	·768	·809	·890	·825	·933	·766	1·006	1·254	1·673	1·929	2·368	5 572	4·831	13·246	12·900	30·667	32·353
Fylde	5·366	4·274	·737	·855	·440	·437	·663	·709	1·059	·891	·988	·790	1·073	1·134	1·453	1·461	2·411	2·570	5·789	5·169	13·951	12·346	26·087	32·917
Clitheroe	5·676	4·724	·974	·833	·585	·545	·771	·953	·859	1 095	·745	1·238	·959	1·450	1·358	1·470	2·749	2·735	6·106	5 909	14·294	16·735	26·316	25·714
Northern Region	5·257	4·504	·822	·868	·539	·518	·688	·813	·965	·995	1·008	1·094	1·238	1.258	1·657	1·589	2·845	2·585	6·371	5·508	14·919	13·236	26·923	28·639
Burnley	8 405	7·174	·967	·920	·609	·525	·748	·906	·806	1·102	·807	1·251	1·083	1·317	1·678	1·542	3·233	3·499	7·528	7·485	17·305	16·245	33·846	33·704
Haslingden	8·116	6·835	·969	·918	·550	·607	·806	·952	·811	·921	·792	1·055	1·149	1·260	1·672	1·853	3·209	3·099	7·618	7·496	18·342	15·042	42·857	31·818
Blackburn	9·806	8·444	1·161	1·094	·618	·620	·898	1·045	·854	·997	·927	1·183	1·208	1·491	1·984	1·796	3·601	3·246	6·969	7·229	16·174	15·265	31·538	31·190
Preston	10·604	8·907	1·088	1·066	·615	·516	·817	1·032	1·019	·943	1·074	1·208	1·472	1·539	2·026	1·937	3·432	3 437	7·238	7·227	15·624	15·646	27·500	29·667
Chorley	6·988	5·785	·906	·755	·623	·481	·823	·843	·878	1·009	1·012	1·135	·966	1·329	1·414	1·554	2·682	2·754	6·486	6·707	14·106	13·275	20·385	29·643
Wigan	9·436	8·598	1·092	·985	·760	·556	·911	·931	1·073	·975	1·036	1·026	1·205	1·339	2·013	1·712	3·348	3·209	7·561	6·840	14·727	15·472	30·294	28·462
Leigh	9·165	7·380	1·049	·902	·596	·519	·981	·862	1·008	1·037	·943	1·281	1·149	1·376	1·725	1·655	3·233	2·584	6·971	6·696	16·364	14·634	35·714	31·429
Bolton	10·267	8·722	1·113	1·086	·612	·607	·979	·889	·941	·944	·929	1·043	1·343	1·320	2·096	1·807	3·770	3·257	8·177	6·914	17·705	15·442	30·000	29·643
Bury	8 527	7·221	·848	·797	·539	·511	·800	·847	·863	·955	·881	1·111	1·102	1·316	1 874	1·831	3·489	3·044	7·607	7·346	16·335	13 927	41·818	32·703
Rochdale	8·670	7·546	1·116	·902	·613	·547	·864	·918	·915	·995	·929	1·078	1·341	1·239	1·925	1·724	3·524	3·097	7·779	7·362	15·652	16·000	36·667	42·917
Oldham	9·985	8·321	·982	·902	·508	·505	·760	·891	·779	1·006	·842	1·125	1·244	1·342	2·246	1·727	3·970	3·458	8·418	7·764	16·360	16·235	34·286	26·571
Manchester	12·380	11·070	1·277	1·220	·575	·560	·843	·785	1 014	·949	1·293	1·229	2·035	1·737	3·170	2·716	5·266	4·476	10·066	8·420	19·528	16·607	44·255	30·784
Salford	10·327	9·190	1·158	1·045	·538	·491	·639	·643	·746	·706	·905	·885	1·516	1·409	2·384	2·054	4·608	3·557	8·386	7·551	19·644	16·519	34·211	37·273
Chorlton	9·497	8·210	·997	1·051	·463	·410	·739	·671	·729	·702	·874	·976	1·275	1·341	2·236	2·070	4·114	3·616	8·404	7·311	15·774	16·308	30·769	34·773
Barton-upon-Irwell	7·294	6·448	1·029	·870	·535	·621	·699	·774	·906	·879	·920	1·063	1·407	1·315	1 770	1·720	3·294	3·108	6·807	6·303	15·970	14·190	27·500	35·000
Ashton-under-Lyne	10·538	9 146	1·164	1·098	·635	·566	·973	1·005	1·006	1·040	·987	1·226	1·281	1·510	2·217	1·815	3·969	3·610	8·865	7·878	18·119	17·287	37·826	35·143
Stockport	9·996	8·768	·957	·865	·516	·553	·892	·904	·943	·962	·887	1·130	1·286	1·305	2·135	1·998	3·975	3·826	8 335	8·333	16·884	16·561	35·161	29·524
Macclesfield	8·676	7·113	·899	·868	·719	·690	·945	1·347	1·009	1·228	·987	1·308	1·094	1·483	1·870	1·901	3 559	3·405	7·635	7·890	14·739	15·174	34·194	32·353
Eastern Region	9 873	8·543	1·074	1·008	·586	·546	·843	·889	·908	·943	·977	1·126	1·377	1·430	2·191	1·971	3·880	3·513	8·058	7·511	16·753	15·719	33·466	31·732
Ormskirk	5·724	5·125	·845	·785	·400	·381	·574	·744	·850	·728	·919	·886	1·157	1·173	1·647	1·439	2·719	2·332	5·844	4·786	13·946	13·176	32·069	22·222
Prescot	7·631	6·843	1·067	·920	·613	·516	·740	·654	·922	·946	1·036	·953	1·444	1·397	2·014	1·731	3·793	3·071	7·456	7·321	16·120	14·568	28·824	23·000
West Derby	8·290	7·412	·993	·959	·513	·461	·601	·538	·819	·613	·906	·901	1·314	1·357	2·084	1·831	3 879	2·984	7·752	6·496	16·263	14·320	31·818	31·235
Liverpool	13 741	12·654	1·457	1·433	·583	·595	·825	·716	1·187	·948	1·596	1·373	2·294	1·877	3·311	2 686	5·350	4·647	10·635	8·509	19·847	15·686	28·333	29·286
Birkenh'd & Wirral	6 617	5·792	·836	·827	·503	·492	·655	·525	·623	·532	·801	·758	1·295	1·138	1·837	1·436	3·204	2·652	7·171	5·798	14 000	12·581	44·706	25·116
Western Region	9·933	9·016	1·150	1·107	·543	·517	·718	·636	·981	·787	1·223	1·093	1·764	1·558	2·582	2·124	4·318	3·574	8·468	7·084	16·769	14·514	31·739	27·445
Warrington	7·981	7·219	·781	·797	·516	·450	·709	·656	·846	·910	·951	1·021	1·407	1·321	2·251	1·891	3·580	3·041	7·711	6·577	18·623	12·995	25·789	34·583
Runcorn	6·387	5·622	·939	·870	·552	·564	·544	·655	·736	·885	·946	1·129	1·185	1·250	1·826	1·737	3·256	2·683	6·722	5·455	15·203	11·788	30·000	34·737
Altrincham	5·948	4·807	·773	·611	·452	·483	·676	·765	·776	·849	·834	1·085	1·301	1·161	1·616	1·507	2·888	2·629	6·284	5·962	15·959	15·639	28·571	37·083
Congleton	7·236	6·291	·944	1·011	·739	·761	·885	1·120	1·064	1·228	·811	1·214	1·020	1·471	1·438	1·509	3·221	3·003	6·744	7·013	16·034	14·643	30·000	33·913
Northwich	7·458	5 660	·810	·777	·571	·508	·706	·717	·857	1·026	·869	1·280	1·189	1·132	1·339	1·457	2·836	2·271	6·059	6·494	15·150	12·642	34·211	32·333
Nantwich	6·214	5·333	·761	·912	·499	·598	·586	·619	·662	·849	·684	·988	·935	1·032	1·161	1·286	2·313	2·295	5·827	6·079	13·891	12·218	32·286	22·727
Great Boughton	6·383	5·631	·843	·833	·444	·496	·651	·632	1·060	·904	1·127	1·119	1·504	1·293	2·293	1·659	3·333	2·952	7·121	5·621	14·789	13·014	31·000	25·972
Southern Region	6·803	5 818	·830	·826	·527	·544	·680	·732	·866	·945	·904	1·110	1·246	1·239	1·748	1·581	3·055	2·703	6·625	6·116	15·399	13·239	30·440	29·472
Nth. Western Div.	9·366	8·203	1·054	1·005	·568	·538	·792	·816	·923	·908	1·033	1·114	1·455	1·437	2·210	1·960	3·809	3·386	7·803	7·101	16·338	14·878	31·828	29·986
England & Wales	7·243	6·274	·851	·842	·488	·506	·669	·738	·883	·853	·957	·992	1·248	1·215	1·796	1·520	3·085	2·701	6·533	5·866	14·667	13·434	31·008	28·956

NOTICE OF A MEDIÆVAL SIGNACULUM OF THE ANGLO-SAXON SAINTS, EDWYN AND ECGWYN.

By Henry Ecroyd Smith.

(Read 25th February, 1869.)

Since the Reformation of our national Church in the 16th century, and the consequent abolition of the fasts and anniversary days of most of its earlier saints, these anniversaries have lapsed into general oblivion. In a very limited number of instances "offices" were continued in reference to such as still retained a strong hold upon the veneration of the commonalty; but in nine cases out of ten, it is to the *Old English Calendar*,* or Chambers's *Book of Days*, the student must turn, even for such names as Edwyn and Ecgwin, which represent men, not merely famous in the annals of the Church, but held for many centuries in the greatest esteem and reverence throughout the land, and most deservedly so as regards Edwyn, one of the first Christian Sovereigns in England.

These saints, the one fourth King of Northumbria, and the other third Bishop of Worcester, lived nearly half a century apart, yet there would appear to have been some connection between them, apart from their respective positions as kingly patron and high dignitary in the church, inasmuch as a relic has been found,—and in this very county, though as yet unpublished,—in which the two are introduced into an association so close, as rarely to be encountered save in cases of contemporary lives.

* It will be found in the *Catholic Almanack* for 1687, and in old *Manuals*, 1706 and 1721; also in the *Paradise of the Soul*, 1720; *Emblems of Saints*, second edition, 1860, by F. C. Husenbeth, D.D., who reprints it, but publishes no emblem or symbol of either saint in question, such being then unknown in art.

About the month of August, 1863, a lady-neighbour of mine, accompanied by her son and some young friends, was "naturalising" in the deeply-worn gully of a rivulet, when a very *un*-natural appearance for a while distracted her attention from ferns and wildling flowers and other gems of earth. The brook, through long drought, had almost run itself dry, and upon crossing it by some large stones, between two of these an anomalous object appeared, protruding. Upon extraction from this place of lengthened confinement it was covered by muddy oxidation, yet the finder was confident something uncommon lay beneath, and the skittish jokes of the young ladies upon the remains of a *child's tin plate*, bought at a fair, fortunately passed unheeded. The streamlet scarcely exceeds half a mile in length and debouches into the Ribble, at one of its numerous northern bends (N.W. of Balderstone Hall, on the opposite or southern bank) after running through a portion of the Elston district, about half-way between Ribchester and Preston. The locality, owing to its peculiar geographical position and the marshy character of the ground, is one of the most secluded from the "busy haunts of men" that can well be imagined for a valley in populous mid-Lancashire—lying quite out of the track of travellers and railway navvies—and the nearest road being several miles distant. Nevertheless, near the mouth of the brook, a *ford* across the Ribble existed in *former* times, and the fact is of importance in connection with the probable loss of the relic from the person of some pilgrim or other mediæval traveller.

When cleaned, the object not only displayed a singular shape, but effigies, symbols, and inscriptions, which caused it to be submitted to the inspection of several local antiquaries; though beyond a short descriptive paragraph in the *Preston Chronicle*, no further attention was called to a truly historic relic, which I venture to claim as one of the most interesting

and novel of its, at all times, very curious class of remains, which has ever been discovered in our land.

The religious *signacula* of the middle ages—commonly designated "*pilgrims' signs*"—were manufactured by the monkish custodians of the numerous shrines of the Virgin and other Saints of repute, and sold to the innumerable devotees and other visitors who flocked thereto. They were cast in pewter or lead (apparently for cheapness, the real seals with few exceptions being produced in *latten*) and in various shapes, but were invariably provided with loops for suspension to the *hat* or other portion of the dress. So abundantly were these tokens purchased in the superstitious times in question that even Royal pilgrims were accustomed to return like the one described in the *Vision of Piers Ploughman*,—

"A bolle and a bagge	(bottle and bag)
He bar by his syde	(bore)
And hundred of *ampulles*	(ampullæ)
On his hat seten	(set or seated)
Signes of Synay	(Sinai)
And shelles of Galice	(Galilee)
And many a crouche on his cloke	(cruise, or water bott'e)
And keyes of Rome	
And the vernycle before	
For men sholde knowe	
And *se bi hise signes*	
Whom he sought hadde."*	

Most of the published examples of which we have any authentic account have been found during the dredging of some piece of water—river, stream, or lake—and the sedimentary deposit into which they have sunk or from other causes become covered by, has generally proved an important element in their preservation.

The *Ampulla* was a particular and comparatively rare form of these signs, manipulated in imitation of the bottle-shaped vessel—the *Ampoulle*—likewise made of pewter, in which was stored the *Chrism* or holy balsamic oil, consecrated for use in

* Wright's Ed.

some of the most important rites of the Church, as baptism and extreme unction—hence the later name of *Chrismatory*. The French name *ampoulle*, or the Latin *ampulla*, was commonly applied to the sign—more or less a fac-simile in miniature, which being formed hollow, was supplied, at the cost of a considerable benefaction to the priest, with a drop or two of the sacred balsam. One of the outer surfaces usually displays an effigy of the saint at whose shrine the sign has been purchased, the other occasionally remaining plain, but more frequently it bears a religious symbol or emblem. Mr. J. G. Nichols, in his *Pilgrimages to St. Mary of Walsingham and St. Thomas of Canterbury*,* incidentally remarks:—"The "pilgrims' 'ampulles' were probably brought from Rheims, "where the kings of France were usually crowned and "anointed from the *sainte ampoulle* there preserved." This opinion we cannot entertain, for though, as stated, this class of the religious *insignia* are rare in proportion to others, yet they have been found in all parts of Britain, and so diversely formed, that no doubt can be reasonably entertained of their insular fabrication, and two of the best proofs of this reproduction are our example from the Ribble, and the next in point of size, which, preserved in the rich museum of local antiquities at York, is said to have been dredged from the bed of the Ouse, and bears the head of St. Thomas à Becket.† Philip de Commines, speaking of the deathbed of Louis XI, says,‡—"The holy vial of Rheims, which had never been "removed before, was brought to his Chamber at Plessis, and "stood when he died upon the head of his cupboard; for he "intended to be anointed with it again, as he had been at his "coronation. Some were of opinion that he intended to have "anointed himself all over; but that was not likely, for the "vial was but small, and no great store of oil in it. I saw it "myself at the time I speak of."

* Westminster, 8vo, 1849. † *Coll. Antiqua*, II, 48. ‡ *Ibid.*

AMPULLA OF PEWTER (DATE TWELFTH CENTURY) FOUND IN LANCASHIRE.
A RELIGIOUS SIGNACULUM OF THE ANGLO-SAXON SAINTS EDWYN AND ECGWYN.

The sign before us is an ampulla of the largest size hitherto found, being three inches in width, and originally measuring from four to five inches in height; but the upper portion is fractured and one of the lateral loops is wanting. The perfect unity and congruity of the whole character of this relic forbids any doubt as to its *genuineness*,—a remark unfortunately necessary in these days of false objects, mostly *not forgeries*, but monstrous; they are absurdly designed and inscribed articles in lead or tap-metal, which, by some means difficult to ascertain, have been scattered by the London manufacturers over the length and breadth of the country.* Our example also dates from as early a period—say the twelfth century—as any described or illustrated by our honorary member, Mr. Roach Smith; for it is to that indefatigable antiquary that the archæological world is indebted for the recognition of and first dissertations upon, this class of mediæval relics.†

It bears an effigy upon either face, and but for priority of existence in the saints, opinions might have differed as to which claimed the honour of the obverse. Giving this tc the martyr-king, we find Edwyn—sometimes styled *the Great*—fourth king of Northumbria, crowned and enthroned, with a sceptre held in the right hand and leaning upon the shoulder, and a sword in the left, whilst flowered draperies complement the configuration. The inscription—carried round the ampulla, almost from loop to loop—is composed chiefly of Roman characters of large size, and reads—"SIGILLVM . SANCTI . EDWINI . REGIS . P . MARTIRIS."* (The sign of Saint Edwyn, King and Protomartyr.) The reverse represents Egwyn, one of the earliest Bishops of Worcester, and the founder of Evesham Abbey. He appears

* No *forgeries of pilgrims' signs* have as yet been recognised, a result occasioned, doubtlessly, through the inability of procuring examples; hence the *invented* types referred to.

† *Coll. Antiqua*, I, p. 81, *et seq.*; II, p. 43, *et seq.*; IV, p. 165, *et seq.*—each notice being well illustrated with numerous examples, English and Continental. The examples first exhibited were dredged from the Stour, at Canterbury.

mitred and enthroned under a canopy, and in full canonicals, with the episcopal staff or crosier in his right hand. At his left side is a *fish*, holding in its mouth the handle of a *key*—symbols which only the extraordinary story of Egwyn's life can properly elucidate. The inscription, which is in similar characters to that on the obverse, runs—"SIGILLVM . SANCTI . "EGWINI . EPI . ET . CONFESSORIS." (The sign of Saint Ecgwyn, Bishop and Confessor.) This title of *Bishop-Confessor* appertained to every occupant of an episcopal see, is still recognised by the Roman Church, and probably dates from the institution of the rite of confession itself.

The combination of the effigies of SS. Edwyn and Ecgwyn upon this ampulla seems to bespeak the existence of a *conjoint shrine, whence it was procured*, but numerous enquiries have as yet failed to trace such a shrine, either in the Ribble district or at Evesham, where one, of the founder, would in all likelihood be erected in the Abbey-church in early times, and later would share the common fate of mediæval sanctuaries. Our own neighbourhood, it will be remembered, possessed one on Hilbre proper, which, there is reason to believe, was much frequented for centuries, and yet the merest figment of a record among the archives of St. Werburg's Abbey has reached our times: others will doubtless remain for ever unknown.

Investigation in the lower Ribble district, though failing to elicit evidence of a shrine of both or either of our saints, establishes the fact of at least *three* religious houses having been founded here during the Norman period. These are—*Penwortham Priory*,* by Warin de Busel, first Baron Penwortham, soon after the Conquest, dedicated to the Virgin Mary, and granted, with valuable lands hereabout to the Abbot and Canons of *Evesham*;† the *Hospital of St. Saviour*

* All traces of this Benedictine priory, as of the castle of Penwortham, have long since disappeared, and even the respective *sites* of these mediæval structures are matter of conjecture.

† Baines's *Lancashire*, III, 485.

of Stede, under Longridge Fell (extra-parochial)—now called the Old Chapel of Styd or Stid, and so designated, according to local tradition, through having stood (*stede*) its ground during the throes of an earthquake, when all the neighbouring buildings fell, and the course of the river, which wound quite closely by, was removed a quarter-mile to the southward; it is said to have been founded in the year 1000, and is acknowledged by Whitaker to be the oldest entire building in all Whalley; extensive foundations of a much larger structure and outbuildings, probably pertaining to a monastery of the Knights Templars, lie around;—lastly, *Whalley Abbey,* too well known to require notice here.* The whole of this tract, *i.e.*, from Penwortham on the south-west to Whalley at the north-east, is further remarkable as abounding in the names (with occasional remains) of *old crosses,* as a glance at the Ordnance map will testify. Here St. Paulinus, exiled from Northumbria in 625, laboured for six years to convert the inhabitants, and three at least of the road-side crosses are believed to have been erected in his time.†

Subsequently, this part of the county—chiefly belonging to Amounderness Hundred and attached to the see of York—was repeatedly visited, in the course of his missionary labours by St. Wilfrid, a successor of Paulinus, who died in 709, and to whom, conjointly with St. Mary, the parish church (at Ribchester) was dedicated.

Thus, a close connection is established with Evesham, as also with York, where it is but natural to conclude a shrine of its Proto-martyr, King Edwyn, was honoured in the Cathedral Church, built by Wilfrid. On the other hand, turning to the Abbey of Evesham, the historical fact is important to the argument that *St. Wilfred was present at the dedication of its Church,* and if, as it cannot be unreasonable to suppose, he had

* The registers of *Samlesbury Chapel* begin in the year 1089: it lies near the Southern bank of the Ribble.

† Baines, I, 51. "A cross formerly existed at Dewsbury in Yorkshire, commemorating the preaching of St. Paulinus in that town."

been a liberal patron of this important and costly undertaking, what is more probable, considering the customs of this era, than that, in compliment to the Archbishop, Ecgwyn here constructed a shrine of St. Edwyn? After decease, his own might be erected in juxta-position, and thus they would become conjointly honoured. When the pewter signacula came into vogne, both saints would appropriately find a place upon one of the particular signs issued here.

Wheresoever it was made, little doubt can be entertained that the ampulla was lost by some pilgrim, upon approaching or leaving the ford by which he either purposed crossing or had crossed the Ribble, on his route between Stede and Penwortham; as lower down, he could only have passed by boat. The wearer of the sign might possibly be a monkish agent of the Evesham or Penwortham establishment engaged in the collection of rental.

In further illustration of the subject, a short sketch is appended of the life of each of these saints.

Edwyn or Edwine,* Prince of Deira, was grandson to Ida, first king of Northumbria, who reigned from 547 to 559, and son to Ælla, first sovereign of Deira, the province (comprising the western portion of the county of York) being now separated from that of Bernicia, which fell to his elder brother Adda or Odda. Upon the death of his father in 588, Edwyn, though raised to the throne, was still a child, and his youth was taken advantage of by his ambitious and unscrupulous relative Athelfrid or Ethelfrith, third King of Northumbria, who had married his sister. This monarch seized the territory, and ruled the provinces with despotic power until 617. For the singular story of the escape, wanderings, and subsequent conversion to Christianity of the royal exile, we must refer to the Venerable Bede's *Ecclesiastical History*, where it

* *Eadwin* of the Saxon chronicle, and *Edwini* are the Latinized forms: in the text the true Anglo-Saxon names Edwyn and Ecgwyn are adopted.

is given in full detail; but a popular rendering of the pith of the Churchman's Latin, under the signature of a well-known writer, Mr. S. C. Hall, may be found in *The Amulet* for 1828.

It was at no inconsiderable risk that Reodwald, the Uffinga of East Anglia, at length commiserating the fugitive, sheltered him in one of his strong castles. Here Edwyn was secretly visited by a stranger—Paulinus, the missionary from Rome—who, solemnly assuring him of a speedy reinstatement into his hereditary position, obtained his promise to *give heed* to one who could bestow upon him "*better counsel—counsel more* "*profitable for your soul's health and salvation than was* "*heard by any of your parents or ancestors,*" when his prophecy should be fulfilled. It was not, however, until some years after the tyrant Athelfrid was killed, and his army routed by Reodwald and Edwyn, that the mysterious stranger advanced his claim. The rule of the new king had not only become consolidated, but he had completely gained the affections of his subjects throughout Northumbria by his intelligence, justice, and kindliness of heart. His reign was indeed peace. Of this remarkable period Bede (himself a a native of and resident in the kingdom) asserts that "a weak "woman might have travelled over the island* without the "least molestation."

Meanwhile, Paulinus had been busily indoctrinating other portions of England with Christian truth, and now accompanied the Kentish, but Christian, bride Ethelburga to her husband's northern home. As a natural result, not the court alone, but the people generally, received the new doctrines most favourably, and Paulinus became installed first Bishop of historic York. King Edwyn was publicly baptized by him in the first church erected in the province, and dedicated to St.

* Florence of Worcester describes Edwyn's territory "*majore potentia cunctis;*" and many writers, following suit, speak of his ruling the whole island as Britwalda.

Peter the Apostle,—which had been hastily constructed of wood for the express purpose,—and so great was the concourse of people that the interesting and imposing ceremony was prolonged *from sunrise to sunset over six and thirty days*, commencing on Easter Sunday, A.D. 627.

After a second reign of seventeen years, Penda, the pagan King of Mercia, who had long been Edwyn's secret foe, persuaded Cadwallo, the British King of Wales, to join him in an attack upon Edwyn. The combined forces met those of Edwyn at Haethfelth or *Heavens-field*, (now Hatfield Chase,) near Doncaster, and there, unfortunately, the first Christian sovereign of Northumbria lost his life, together with a vast number of his converted subjects, whence the designation of the site of this dreadful encounter, in which Penda and Cadwallo are asserted to have spared neither age nor sex. The head of King Edwyn was buried in St. Gregory's porch of the church he had nearly constructed at York, but his body was conveyed to the celebrated Abbey of Streaneshalch by Whitby, and there interred with fitting honours A.D. 633. His offices as King-Martyr and Saint were celebrated on the 4th day of October in each year.

The life-history of Bishop Ecgwyn bears a widely different complexion, but is equally noteworthy from its curious incidents, thoroughly characteristic of the times, and which are chiefly culled from his autobiography.*

* Mr. Thomas Wright, M.A., gives in his *Biog. Brit. Literaria*, I, pp. 223-9, an excellent digest of this account, from which the more interesting occurrences are extracted in the text. He appends the following note: "The life of Ecgwyn, "composed in part from his own work, is preserved in a noble MS. of the 10th "century, MS. Cotton, Nero, E. I, fol. 22 r°, 32 v°. It has one or two words "glossed in Anglo-Saxon. This life has been attributed to Berctwald, Arch-"bishop of Canterbury. It has never been printed. An abridgment of it, "written apparently in the 12th century was printed in the *Acta Sanctorum* "*Mens. Januar.*, Vol. I, p. 707, and had previously been inserted in the *Nova* "*Legenda Angliæ* of Capgrave. Bede has not mentioned Ecgwyn's name, "indeed the general information that historian gives relating to the kingdom of "Mercia is very incomplete. William of Malmsbury has a brief account of "Egwyn, *de Pontif*, p. 284. A life quoted by Godwin (de Brœsul) appears to "have differed from those just mentioned."

The date of his birth is unknown, but that he was a native of the district owning Worcester for its capital, and claimed a near relationship to the royal line of Mercia, are facts thoroughly established. A contemporary biographer, (probably Berctwald, archbishop of Canterbury,) states that even in childhood Egwyn was remarkable for pious conduct, and that in early manhood, having already become a confidante and councillor of King Ethelred, this monarch promoted him to the see of Worcester, on the death of Oftsor, A.D. 692. In common with Edwyn of Northumbria he soon experienced the dangers of his elevated position, but the bishop's enemies were private and intriguing ones. Their insinuations culminated in heavy charges, the *gravamen* of which has not transpired, but the great severity of his sacerdotal rule is supposed to have formed the original provocation. However this may have been, the sovereign at length felt bound to concur in his favourite minister's journey to Rome, at the mandate of the Pontiff, there to answer the serious accusations which had been preferred against him.

Ecgwyn was a politic man; if he could lay claim to the innocence of the dove, he likewise proved himself to possess in no small degree, the wisdom of the serpent. A great appearance of humility under the circumstances was essential to his purpose, and he forthwith proceeded to order, at a neighbouring smithy, a set of iron fetters, padlocked like what are now used to secure horses. These being attached to his bared legs, the arraigned ecclesiastic started on foot, in the most approved penitential style, having first—and this should be especially noted—locked the manacles *and cast the key into a reach of the river Avon*, still known as the "*Hrudding* "*pol.*" (pool.)

Ecgwyn and his party duly reached the coast; but walking fettered and barefoot does not seem to have exactly agreed with the penitent's constitution, for, at Dover, where probably none

but friends enjoyed his *personal* acquaintance, the pilgrims very sensibly took ship for the Italian coast. Here, disembarking from their small craft at the mouth of the Tiber, the bishop devoutly addressed his thanks to heaven for deliverance from the dangers weathered, whilst some of his companions, more sensually inclined, devoted their energies to a little amateur fishing, the result being the capture of a fine salmon, which strange to relate—though no more strange than *true*—upon being disembowelled for cooking, *was found to contain the key of the bishop's manacles!!!** The story soon got wind, as well it might, and speeding to Rome ahead of our party—just as a certain slang phrase entered London antecedently to the arrival of the wofully *foot*sore volunteers from Brighton, a few years ago—the result was quite a sensational reception in the "eternal city," the very bells of their own accord pealing loudly in welcome. The Pontiff received Ecgwyn most graciously; decided unequivocally against his traducers, and the maligned churchman, with highly recommendatory epistles, returned to Mercia, where his good friend and sovereign not only at once reinstated him in the bishopric, but placed the tutelage of the royal children under his supervision.

Later in life Ecgwyn founded—it is said upon the site of a more ancient church—and in a forest tract near Worcester called Homme or Evesham, a sumptuous abbey. The precise location was miraculously indicated, in the first instance, to the head swineherd, by three seraphic females, supposed to be the Virgin Mary and two angels—a vision repeated for the especial encouragement of Ecgwyn himself.

His own account as rendered by William of Malmsbury runs, "I Ecgwyn, the humble Bishop of Mercia, am desirous "to manifest to all the faithful in Christ, how by the inspira-

* No salmon being found in any stream connected with the Mediterranean the miracle was enhanced effectively.

"tion of the Holy Spirit and by the suggestions of many "and of real visions it was revealed to me that I should erect "an house to the honour and glory of Almighty God, the "blessed Mary, and all the elect in Christ, and to the "furtherance of my own salvation. When, therefore, in the "days of King Ethelred, I chiefly flourished in his favour, I "obtained from him a place called Haum, where the blessed "and eternal Virgin had first appeared to a shepherd named "Eoves. Afterwards she appeared likewise to me in the "same place, with two virgins attending her, and holding a "book in her hand. I set, therefore, immediately to work "and clearing the place from thorns and brambles, by the "blessing of the great God (praised be His Name), brought "my design to its deserved accomplishment. * * * * "Thus, by the blessing of God, in a short time I had col- "lected 120 manses for the aforesaid Church of Christ."*

King Ethelred died soon after the commencement of the work, but Coinred, who succeeded him on the Mercian throne, was equally well disposed to the bishop, endowing the rising monastery with rich lands on both sides of the Avon. In the year 709, the building was probably complete, for at its commencement we find Ecgwyn once more in Rome, whither he had gone for the purpose of securing a charter of privileges for the new foundation. The consecration, which occurred in the same year, was regarded as a highly-important ceremony, for not only Wilfrid of York was present as we have seen, but Archbishop Berctwald, who presided, and a large number of the inferior clergy likewise officiated.

John of Tinemouth reports strongly in favour of Ecgwyn's pastoral qualities—"This holy man, the higher he was ad- "vanced in his station, became only the more conspicuous by "his humility and other virtues. He was the father of the

* Tindale's *History and Antiquities of the Abbey and Borough of Evesham*, 1794.

" fatherless, the patron of the afflicted. His discourse to the " wicked was as a sharp sword; to the virtuous it was milk " and honey. He was resolute to the obstinate, but kind and " gentle to the meek-hearted."

" He was the author of several works, having much erudi- " tion for that age, though it is doubtful whether any of them " are still extant."*

Of the lordly Abbey, little remains except the Tower of the Church and a noble arched portal, finely sculptured with groups of figures. The late lord of the manor, Edward Rudge, Esq., F.R.S., F.S.A., excavated the foundations, 1812—1822, and a fine lectern or elevated reading desk, with four sides of richly sculptured stone was found, which is engraved and described in the *Archæologia*.† Upon it is the figure of an abbot in relief, with a crosier in the left hand, thus distinguishing a bishop, and as Ecgwyn was the only abbot of this rank, there is good reason for assuming that his effigy was intended.

Impressions of several seals used in the Monastery exist. A circular one, four inches in diameter, nearly whole, and probably dating from the 13th century, of St. Mary and St. Ecgwyn, is decidedly the most interesting. The obverse includes, in the lower part of the field, a trifoliate compartment containing a representation of the herdsman Eoves tending his swine in the forest, and inscribed—" EOVESHE . VENETIE . " AIT . WAS . SWIN . CORLIMEN . CLEPET . VIS . EOVISHOM,"— thus rendered: " Eoveshe was keeper of swine at the island Ait. The country people call this the habitation of Eoves." Above on the left are three females. The first is crowned and bears a cross-headed staff, with which she points to the church above: opposite is the bishop in canonicals, kneeling, and behind him stand two attendants. Connecting these groups is a label, inscribed, " ECCE . LOC . QVE . ELEGI." (Behold

* Tindale. † Vol. XVII, p. 278.

the place which I have chosen.) The circumscription runs— ✠ "SANCTE . MARIE . ET . SANCTI . ECGWINI . EPI . EOVES- "HAMENSIS . MONASTERII." The reverse bears several groups, under early Gothic canopies. On the left, within a Gothic niche, appears the Virgin and Child, below which a King stands handing a charter to a Bishop, which is inscribed, "DAMUS . REGIE . LIBERATI." Behind the King is a Queen, and an official bearing a hawk (?) Above is another view of the abbey-church. Circumscription, "*DICTIS . ECGWINI . . . "(UHERATRINI . OMNI) BVS . VNDE . PIE . NITET . AULA . SAC . "MARIE." Part is wanting, and though supplied as above, no wonder Tindale remarks on the difficulty of interpretation.

Dugdale in his *Monasticon** supplies variations of the above inscriptions, which are probably more correct, the first reading,—

"EOVES . HER . WENEDE . MIT . WAS . SWIN .
ECGWIN . CLEPET . VIS . EOVESHOM".

rendered, being two lines of rhyme,

"Eoves here wended with his swine,
Ecgwin named it Vic (village?) Eovesham."

The circumscription of the reverse appears as

"DICTIS . EGWINI . DAN . . . . FRATRI . RI . . . . . .
SACRAE . MARIE."

This seal has every appearance of having been copied from one of earlier fabrication.

A second seal is oval, and contains two figures, the Virgin, presenting a crosier to an Ecclesiastic, probably Ecgwyn; above appear the sun and moon; circumscription almost gone.

A third bears the Horselock from the abbey arms—(*azure*, a chain in chevron, with a ring in the dexter, and a horselock in the sinister, between three mitres labelled *or*)—between three mitres.†

* Vol. II, p. 13. † Engraved in Tanner's Plate of Abbatial Seals.

Thus both seals and arms served to perpetuate the memory of the founder, and some of the more notable events of his public career.

At an advanced age, Ecgwyn resigned his episcopal duties, and lived in comparative retirement as head and first abbot of his monastery until his decease, which occurred about the year 718, the day being stated by his biographer as the 30th of December. His offices, according to the *Old English Calendar*, were, however, sustained upon the 11th of January. He was interred under the Church of the monastery. Saint Ecgwyn, according to his own account, was throughout life "a dreamer of dreams and a seer of visions," all of course having for their aim the furtherance of his sacerdotal aspirations; but for none of the numerous and striking episodes of his career does he more solemnly vouch and endorse the veracity of, than the truly marvellous story of the *ubiquitous fish*, the effigy of which appears with that of himself upon the remarkable signaculum before us.*

* Dr. Husenbeth kindly informs me that should he receive sufficient inducement to publish another edition of his *Emblems of Saints*, St. Ecgwyn will certainly find a place there, as, besides being accompanied by the *fish and key*, he is represented wearing his voluntarily imposed fetters, and causing a fountain spring up.

ON SOME ORIENTAL GEOGRAPHERS.

By F. Boyle, Esq., F.G.S.

Read 22nd April, 1869.

It is difficult for the ordinary traveller of our times, observing the sedentary habits, the listlessness, the fatalism of modern Orientals, to credit what activity of mind and body but a few centuries ago distinguished the Arab, the Persian, the Malay, and even the Chinese nations. The ardour of a new faith, the promptings of an ambition suddenly aroused, the very delight and wonder of their own success, then stirred the Musulmans of every clime to tempt dangers hitherto viewed with terror,—urged them to trust their own valour single-handed amongst heathen foes, or to defy the elements themselves. This fervid spirit, as we know, did not permanently endure. Five hundred years after the prophet's death it already was passing off, and although the great Malay conquerors of the fourteenth and fifteenth centuries had somewhat of the old fire in their souls, that extensive commerce of the Arabs and Persians, which it had been one among the greatest aims of their first rulers to encourage, was decaying rapidly. I purpose in this paper to say something of those early travellers whose stories have come down to our own times, and I would preface what I have to tell with a very short summary of the knowledge possessed by the ancient world upon this subject of oriental geography.

Herodotus, to whom one turns, of course, for information on such matters, has but little to tell us of the Eastern world, excepting of Persia and Media. The conquests of Alexander first gave to Europe a slight idea of the countries lying immediately on this side the Indus, and laid the foundation for that commerce which has since been carried on without

interruption. Major Rennell opines that the Ptolomies had a direct communication with all parts of India by sea, from their port of Berenice, but the gross products of that country were probably conveyed through Persia by land and water carriage. It was not, apparently, until A.D. 50 that even the action of the monsoons was practically understood. About that time a certain Hippalus, captain of a vessel in the Red Sea trade, stood out from the straits of Bab-el-Mandeb, and trusted himself to that wind, henceforth known throughout the ancient world by his name. The S.W. monsoon carried him to Musiris, on the coast of Malabar, and from that date the ocean traffic with India may be said to have commenced. A century afterwards, the author of *The Periplus of the Erythrean Sea* was able to correct the gross mistake of Ptolemy, who had described the coast line of Hindostan as running nearly east and west, with the delta of the Ganges somewhere in the latitude of Siam. Ptolemy, however, had extended the knowledge of his contemporaries as far east as the Malayan peninsula, and the western coast of Cochin China. With the fourth century this trade by the Red Sea began to suffer from the competition of Persia, and gradually dwindled away, under the later Emperors of the East, until the Arab conquest of Egypt. In the reign of Justinian we have evidence that the trade by sea still continued, in the travels of "Cosmas the Egyptian," who wrote an important work called *Typographia Christiana*. After the subjugation of Egypt and Persia by the Moslem, the entire Eastern trade fell into Arab hands, and for a time, as I have said, it was prosecuted with a vigour and intrepidity hitherto unknown. Expressly with a view to encourage this traffic, Khalif Omar founded the city of Busrah, between the Persian gulf and the point of junction of the two great rivers Tigris and Euphrates. From that date we have numerous accounts of merchants and travellers voyaging to and fro

over the Indian seas. Masudi, in his great work called the *Moroudj-al-dzeheb*, takes the first place among these geographers, but there were others much earlier in date. Some years since, M. Stanislas Julien published a translation of a Buddhist work, which recounts the wanderings of Hiouen-thsang, who set out in the year 629 A.D. to examine the condition of those disciples of his creed resident in India and the Eastern islands. For seventeen years he wandered up and down, on his pious pilgrimage. Starting from Liang-tcheou, in the north-west of China, this enthusiastic disciple of Buddha made his way overland to Peshawur, a journey which we are now just attempting to repeat; thence to Kashmere; thence, turning southward, to Benares; through north-east Bengal, to the delta of the Ganges; southward still, along the coast, to Madras. Then back, northwards and westerly, to Malwa, through Sindh, Moultan, and at length home. This voyage, which tells us somewhat of countries that no civilized man has since visited, is eminently Chinese in character: minute to a singular degree, and apparently precise. Mr. Fergusson, in his most valuable work upon *Tree and Serpent Worship*, has drawn very freely from this interesting diary.

Another voyage, as early in date as the beginning of the ninth century, is that of Soliman, which has been several times translated into French and English. M. Renaud's edition, published in 1845, consists of two parts, first, the writing of Soliman himself, and, second, the commentary upon it, almost contemporaneous, published by Abú Said Hassan. To these two authors we are indebted for a vast amount of information relating to the ancient divisions of India and the far East. Soliman set sail from the Persian gulf for Quilon, which he reached after one month's voyage. Thence he proceeded to the islands of Lendjebalous, which M. Alfred Maury concludes to be the Nicobar isles. Thence, touching at various places, he passed to Sumatra and Java,

and, proceeding further, reached (probably) Siam, and Cochin China;—throughout the record of his voyage we find evidence of a most extensive commerce between the Persian gulf and the remotest kingdoms of the East.

In the year 1324, Ibn Batuta, the most active and diligent of Arab or Moorish travellers, set out from Tangier, with a primary object of making his Haj, or pilgrimage, to Mecca, and a secondary desire to see the world. The book in which he has recorded his adventures, is full of interest, not altogether void of the droll extravagance of which I shall give some examples in speaking of Abd-er-Razzak, the Persian voyager, but very much more useful to later students than is that curious work. Wandering from Tangier to Egypt, from thence to Arabia, and onwards to Hindostan, Ibn Batuta at length found himself at Delhi, high in favour of the tyrant Sultan Mohammed, whose cruelty was destined to break up the monarchy bequeathed him by his father. From this position the traveller escaped by accepting a post of honour in an embassy despatched by the sultan to the emperor of China, whither he attempted to proceed by ship from Calicut, A.D. 1342. But before the coast was gained his party was attacked by rebels, every member of it slain except himself, and he compelled to return alone to the emperor. The second attempt had better success. After a long and interesting journey, well described, he reached Calicut, where the Chinese vessels were awaiting his arrival. But, while in course of embarking, a cyclone swept the harbour, and once more Ibn Batuta found himself bereft of his colleagues, who were drowned, his property, which was sunk, and all his wives, who were carried off to China, and there confiscated by the emperor's order. The Moorish traveller found himself once more in utter poverty, but resigned himself to fate. Not the least curious feature in the lives of these voyagers is their calmness under any sufferings that do not actually

cause bodily pain, and the apparent inconsistency of their conduct. One would have expected Ibn Batuta to return once more among his friends, and borrow or beg a fresh outfit. Not so does he act. Setting sail from Hanavar, he quietly resumes his vagrant life of former days, and, in process of time, turns up successively at the Maldive Islands, Ceylon, Java, Sumatra, and China, of all of which he treats in his book, whereof a translation was made by Professor Lee of Cambridge, for the Oriental Translation Committee, 1829.

Ebn Haukal is the most famous, perhaps, of Arab geographers, probably because he has given more trouble to the commentators than any other of them. But his *Itinerary*, called the Masalek Memalek, is very uninteresting. It lacks the life and spirit of these other countrymen of his. Amusing it cannot be called, except to that gifted mind which could discern entertainment in the pages of a railway guide; instructive in some degree it may have been to the author's contemporaries, who recognised the obsolete or distorted names which now drive geographers to despair. It gives, as a rule, neither winds nor tides, and never latitude or longitude. Its barren lists of distances are neither accurate in themselves, nor deducible to any uniform standard. Once in a while Ebn Haukal throws off some such hint of trade as "here they export slaves of white "complexion," or "here, (at Sirin,) they find a certain thing "called *mouhi*, resembling fine beaver, or raw silk; it rubs "itself against the stones on the sea shore, and its plumage "or down comes off, which the people gather and weave "into garments, which cost above a thousand *dinars*." Ebn Haukal was only acquainted with the coast towns of Hindostan, and his idea of the interior was of a desert, which the natives alone could enter, so full of danger was it. In this desert lay the city of Canooj, and past this stretched the Cheen Macheen, "beyond which no man passes."

As an example of the tone or manner of an Oriental traveller, I cannot find a more characteristic author than Abd-er-Razzak, the son of Ishak, a Persian-Arab of the fifteenth century. I will very briefly trace his route, and then comment upon his manner of viewing the events and wonders he beheld. Abd-er-Razzak, was born at Herat, in A.D. 1413, and at twenty-four years of age entered the service of Shah Rukh. Four years afterwards he was sent on an embassy to India, and of this voyage he has left a detailed account. After his return he was employed in various diplomatic services by the Shah and the Sultan Abu Said. He died at the age of sixty-nine, sheikh of the monastery of Mirza Shah Rukh, at Herat.

Abd-er-Razzak left his native town, January 13th, 1441, the first day of Ramazan, by the Kohistan route. Eighteen days after, he reached Kirman, where the devout Moslem paused for the feast. On the fifth day of Schewah, February 16th, he quitted Kirman, and, a fortnight afterwards, arrived at Ormuz, then a commercial centre of the greatest importance—"There," says the traveller, "merchants of seven "climates, Egypt, Syria, Roum, Azez-bijan, Irak-Arabi, "Irak-adjemi,—the provinces of Fars, Khorassan, Ma-wara- "Amahar, Turkistan, the kingdom of Kipchak in Tartary, "of the Kalmucks, of China and Cochin China, and the city "of Pekin, all make their way. They bring hither those "rare and precious articles which the sun, the moon, and the "rains have combined to bring to perfection, and which are "capable of being transported by sea. Travellers from all "quarters resort hither, and for all merchandise, except gold "and silver, a tenth of the value is paid by way of duty."

From Ormuz, which our traveller is never tired of praising, he set sail for India, but was compelled by stress of weather to put in at Muscat, where all the party lay several months in terrible anguish of mind and body. Here died the elder

brother of Abd-er-Razzak. At length, in May, 1442, he was carried aboard a vessel bound for Calicut, and, after a voyage of eighteen days, reached that city.

For some reason or other the ambassador does not appear to have been well received by the Sameri, or king of Calicut, although that monarch lay under great obligations to the Shah of Persia. But sovereign and people are spoken of with contempt by Abd-er-Razzak; the latter are more like devils than men, too dreadful to dream about, and the monarch is described as a worthy ruler of such black and naked fiends. He admits a few good qualities they possess, such as honesty and courage, but evidently dislikes the country. His position here was indeed embarrassing, slighted by the sovereign, and bitterly disliking every native of the country. After some weeks' discomfort, a message arrived from the King of Vijanagar* begging the Persian embassy to visit his court. With permission of the Sameri, Abd-er-Razzak accepted the invitation. Departing by sea from Calicut, he landed at the port of Mangalor, whence, after a stay of two or three days, he proceeded inland to the capital, remarking on the way two enormous temples, one of cast bronze, and the other built of some blue stone. Our traveller is excessively enthusiastic about the women of Belloor and Vijanagar. He compares them to several products of the earth and sky, roses, pomegranates, moons, and houris. This subject he again insists upon in describing the festival of Mahanadi, at which he was present in a place of honour. For Abd-er-Razzak fared better at the court of Vijanagar than at Calicut. The king gave him an audience, and proved most courteous, supplying him daily with rice, betel nut, gold, and camphor in abundance. But after some months the royal favour declined. Some merchants of Ormuz, actu-

* The name of this city constantly occurs in Arab writings on India. The ruinous evidences of its past glory still stand on the banks of the Tungabudra, opposite Anagundi.

ated apparently by fears for their trade interests, circulated a report that Abd-er-Razzak had no credentials from the Shah, nor was aught in fact except an adventurer. On this the king's tone changed, and the ambassador shortly afterwards quitted Vijanagar, with spirits much harassed by his successive misfortunes.

He set out on the return journey on 12th Kaban (Nov. 5), 1443, and on 8th Zu'lkadah (January 28th), 1444, sailed from Mangalore; after a terribly bad voyage reached Muscat in March, and, on a day very white in Abd-er-Razzak's calendar, landed again at Ormuz, April 22nd, 1444. According to the scheme proposed, I shall say a few words of the work in which this voyage is narrated.

The author commences with a short explanation of his hopes in publishing the book—viz., that learned men will ponder its information, and approve it. He then magniloquently refers to the evidences of a deity's existence in the order of the stars, the vastness of the ocean, and many other aspects of nature. After a while we come to the essential fragment of fact contained in this mountain of husk, namely, that he, Abd-er-Razzak, "in pursuance of the orders of Pro-"vidence, &c., &c.," was commanded by his Majesty to undertake a voyage to India. The passages that follow, telling of his journey to Ormuz, and the description of that wealthy port, are very interesting. But the sea again tempts our excitable traveller into rhapsodies terribly incoherent. "As "soon as I caught sight of the vessel," he says, "all the "terrors of the sea presented themselves before me. I fell "into so deep a swoon, that for three days respiration alone "indicated that life remained within me. When I came a "little to myself, the merchants, my intimate friends, cried "with one voice that the time for navigation was passed. * * "All with one accord, having sacrificed the sum which they "had paid for freight in the ships, abandoned their project,"

and precipitately leapt ashore at Muscat. At this moment, when his "heart was crushed like glass, and the mirror of his "understanding had become covered with rust, in consequence "of this hurricane of painful circumstances," our brave traveller heard by accident a merchant speak of Herat, at the mention of which august city he "went very nearly distracted." Hastily requesting the merchant to pause a moment, he plunged into poetry, and threw off the following verses :—

"When in the midst of strangers, at the hour of evening prayer,
"I sat me down to weep,
"I recall my adventures, the recital of which is accompanied by
"unusual sighs.
"At the remembrance of my mistress and my country, I weep so
"bitterly
"That I should deprive the whole world of the trade and habit of
"travelling.
"I am a native of the country of the Arabs, and not of a strange region."

Our voyager is excessively poetical. Every circumstance of his travels suggests a copy of verses. Speaking of the climate of Muscat he thus delivers himself:—

"Soon as the sun shone forth from the height of heaven,
"The heart of stone grew hot beneath its orb;
"The horizon was so much scorched up by its rays
"That the heart of stone became soft as wax—
"The bodies of the fishes at the bottom of the fish-ponds
"Burned like the silk which is exposed to the fire.
"Both the water and the air gave out so burning a heat,
"That the fish went away to seek refuge in the fire.
"In the plains the chase became a matter of perfect ease,
"For the desert was filled with wasted gazelles."

Then he falls ill, and the opportunity is not neglected—

"I am reduced to such a state of weakness, oh my friend! that the
"zephyr carries me each instant from one climate to another, like the
"swell of the wave.
"I continue no longer in my gay position, for the action of fate has
"made me rise and fall, like the cord of a hydraulic machine."

Exquisitely droll is the poor courtier's description of his maladies. He exhausts the wealth of Oriental metaphor to express his sufferings, and when this resource fails, continues his moaning in such verses as I have quoted. At length,

"regarding the past as having never occurred," he is carried by a "few strong men" on board a ship bound for Hindostan, and, without loss of time, turns the occasion to account, and indulges in a mountainous feast of quotation, hyperbole, and verse.

At first sight of the natives of Calicut, prose fails him again: he bursts into awful song. They are, he declares,

"Extraordinary beings, neither men nor devils;
"At sight of whom the mind takes alarm!
"If I were to see such in my dreams
"My heart would be in a tremble for many years!

"I have had love passages with a beauty whose face was like the "moon; but I could never fall in love with a negress."

The last strophe is not to be surpassed.

His description of Calicut and its people; of his voyage to Vijanagar; the temple at Mangalore, and other monuments existing in his day, are all exceedingly valuable. But his poetic vein is irrepressible. Telling us of the great temple at Beloor, he remarks that—

"Since its head shot up towards the skies, that vault, previously "without stones in it, now seems formed of them.

"Since that its stones have rubbed themselves against the sun, the "gold of that orb has taken a purer alloy."

Then we get to the regions of sober sense again on reaching Vidjanagar, where the traveller beheld certain feasts, and noted down some events, for which we are grateful to him. In fact he behaves like a sane though excitable person during his stay at Vidjanagar. But he recovers his wilder self on the return journey. The storm that overwhelms his vessel in the Persian gulf is described with droll vehemence, but even at its height our intrepid author does not neglect the muses. He tells us that "the planks of which the ship was composed, "and which by their conformation seemed to form a continu-"ous line, were on the point of becoming divided, like the "letters of the alphabet. The sailor who, with respect to his "swimming, might be compared to a fish, was anxious to

" throw himself into the water *like an anchor.* The captain, " though familiarised with the navigation of all the seas, shed " bitter tears, and had forgotten all his science. * * * For " myself, in this situation, with tears in my eyes I gave my- " self up for lost. Through the effect of the stupor, and of " the profound sadness to which I began a prey, I remained, " like the sea, with my lips dry and my eyes moist." Then he betakes himself to poetry—

" My mind, hitherto so strong, was like the ice that is suddenly ex- " posed to the heat of the mouth of Tamong; even now my heart is " troubled and agitated, as is the fish taken out of fresh water.

" May the torrent of destruction overturn the edifice of fate, which " thus brings in successive waves the waters of misfortune upon my " head."

And again, in prose not less impressive:—" The pure water " of my life was troubled by the agitation of the sea; and the " brilliant mirror of my ideas, *in consequence* of the damp- " ness of the water, and the putrefaction of the air, was " covered with rust. Each moment that the pupils of my " eyes contemplated that muddy water, it resembled, through " the effect of my extreme alarm, a flaming sword. At sight " of the agitated sea, overset by the tempestuous winds, I drew " from my breast an icy sigh; it was a sharp weapon, which " tore my very soul."

One cannot but rejoice that the traveller who has left such exquisite fooling, for the amusement of later generations, reached home in safety, and died in his bed at a ripe age. If any member of the Historic Society should wish to make closer acquaintance with this droll but interesting work, I should recommend him to procure Mr. R. H. Major's *India in the Fifteenth Century*, published for the Hakluyt Society, wherein will be found the very sympathetic and admirable translation of Abd-er-Razzak's itinerary which I have used for quotation, and much more information on the subject of Oriental voyages to India from which I have quoted.

It is singular that the Malay language and literature have

attracted so little attention from the zealous orientalists of our day. Sanscrit, Persian, Chinese, and Hindustani have their unfailing supply of enthusiastic students, but with the recent death of Mr. Crawford, the Malay has lost its sole champion of eminence. Yet is this a language vastly important. What is the Lingua Franca on the Mediterranean coasts, that is the Malay throughout the further East. It forms an universal medium for communications relating to seafaring matters. It is the natural speech of some millions of people, and the root-tongue to a countless population; and in islands or countries where the interior dialect has changed almost beyond recognition from the parent stock, it is still an intelligible language on the seaboard. If one take a map, and roughly estimate the area over which Malayan is the sole tongue,—pure Malayan that is,—one may indeed deny the importance of its study; but on extending our view over that larger space where, though not universal, it forms the *current* language, that into which the aboriginal tongue, or dialect, is naturally interpreted,—one cannot but feel surprise that more regard has not been paid to it. The first category is short enough—Malacca, Sumatra, and Celebes, are the only countries of size and importance of which it can be said that Malay is the sole language in use; and even this assertion must be received with a great deal of qualification. But in the second category must be reckoned the whole Indian Archipelago, from Achen Head to the Gulf of Carpentaria. Nor is this all. The philologist, examining the languages of the Philippines, of New Zealand, Australia, all the islands, I believe, between the Sandwich Isles and the Marquesas, will find that their root lies bedded in the Malay. The mere extent of land and water where their tongue still bears evidence to the energy and courage of these rovers, is probably little less than one-sixth of the world's area, though the population there dwelling is of course quite out of proportion

to the space it occupies. And we do not yet find any token of its dying out in favour of another speech. The Chinese are indeed pressing hard upon those less earnest races inhabiting the south-east of Asia; indeed one can already foresee a time when the Celestials will regain that importance throughout the Malayan countries, which, in their latest strongholds, they only lost a century ago. But this language does not seem to threaten the native tongue, nor, looking at its singular difficulties of grammar and pronunciation, can we believe it ever likely to supersede, in European favour, the simple and melodious Malay. We know that even to this day, there are villages about the foot of Kina Balu, in Borneo, where Chinese is commonly spoken side by side with the native dialect, but those who use the foreign speech are themselves descendants of the old Chinese settlers, driven out for the most part, or murdered, by the present sultan's grandfather. There is no evidence that the Chinese has anywhere triumphed over the Malay, or even the Javanese, but one day's stroll through Singapore or Pulo Penang, will shew the traveller what rapid strides the latter easy tongue is making even among foreign immigrants.

Unquestionably the Malay is a language most important, as the current medium along the seaboard from Aden to Japan; in which latter country, I believe, very many of its words have been naturalised; if indeed the Japanese is not, as some have fancied, to be reckoned among those countless tongues which spring from the Malayan stock. I once escaped from a disagreeable position at Kandy, by addressing a few words of Malay to the hostile mob, and I have heard a negro at Panama interlarding Malay words in his discourse—apparently with the understanding of his hearers.

But the number of persons who have made a real study of this spreading tongue is very few. I never heard of any scholar in this generation, except the late Mr. Crawford, who

could write or even read it with fluency. Sir James Brooke, the most perfect master of its elegant inflections, equally with its most pedantic complications, could not; or else he did not care to take the trouble even in very simple communications. He always had his letters read to him by a native secretary. But the explanation offered sounds reasonable enough. "Why undertake a most laborious study which can "never be turned to profit?" people say. "Why learn to "read a language which has no literature?" This reproach is constantly cast at the Malay, and it is not to be denied that a certain degree of truth almost justifies it. Undoubtedly, if all known manuscripts in this language were brought together, and the little pile compared with such a mountain of parchment as Arab, Hindu, Persian, or Chinese could easily erect, our Malay library would appear very small in quantity, and rather uncouth in style or character. This is not a literary people. Its signs of writing are all borrowed; its very words, expressive of abstract ideas, are for the most part stolen, from Arabic, Persian, or Hindu. English, in later years, has contributed several expressions to the Malay vocabulary. But there are important works in this language, though few in number, and almost exclusively confined to one subject—sea travel. This is highly characteristic of the race. The *Annals*, some stories from the *Arabian Nights*, some heroic poems, a very few treatises upon minor points of religion, and certain works containing laws of the various kingdoms, are the sole exceptions that I know of. I am speaking of pure Malay; in the Javanese dialect there is, I believe, a considerable number of original works, and the same may be perhaps the case in some other countries.

But the genius of the race, well shown in the title or name they arrogate,—"orang laüt," men of the sea,*—is essentially

* This expression was once applied almost exclusively to the piratical peoples. Of later years, all Malays have laid claim to it.

maritime and adventurous. Hence the commonest works that have been written in their language,—or, at least, that have survived the great confusion which for the last two hundred years has involved this people in its various seats,—treat of voyages and of wonders beyond sea, of currents and miracles, of products and saints, of trade and supernatural marvels. There is not less of the latter element here than in the Arabic and Persian geographies, but on the other hand, there is more of the information useful to practical men. The Malay is unmistakeably a sailor, and, when the fortune of his race was at its apogee, when the thirteen kingdoms flourished in a certain barbarous order and civilisation, he was unmistakeably a great merchant. These facts are constantly impressed upon one in hearing the story of this "Nicodah" or that, preserved to our day. When one takes up a *Mesalek Memalek*, or the periplus of some renowned Arab or Persian, Ebn Haukal, Edrisi, or Moustouffi, one is frequently puzzled to understand in what capacity the geographer made his travels, but there is not such probability of error as regards the very few Malay travellers whose works have come down to us. The former class consisted of persons, very enthusiastic no doubt, and excessively hard-working, but essentially philosophic,—to that degree that a fact is of the same value to them whether useful or not;—the other, of sharp, business-like men, credulous as children,—much more so than the others,—about matters outside their own line, such as the doings of Solomon in bygone days, and the habits of supernatural beings at the present time, but full of practical wisdom as to the things of every-day life. There is in them also a vein of humour, or what I cannot but fancy to have been meant as such, wholly absent from their more pretentious models. Ebn Haukal had heard of the Romans, and perhaps, though his orthodoxy would not allow him to confess the truth, knew a good deal about them,

and about the Greeks also; Nicodah Mummin was profoundly ignorant of these matters, but, *en revanche*, he was infinitely better "up" in the doings of jins and sorcerers. Ebn Haukal cared nothing about winds and currents, apparently conceiving that only two seas existed on the earth's surface, the Mediterranean and the Persian, whilst Soliman enumerates seven between the mouth of the Tigris and China; Nicodah Mummin apparently considered that his main duty lay in setting down rules for sailing in given waters, rules for trading in given localities, and general hints about things useful to be known by the sailor and the merchant.

The misfortune is that these MSS. are so very few, and so ill written. The Malays never had a national alphabet, and, these many centuries past, they have been corrupting their spoken language, taking words from every nation with which they have come in contact. The *lontars* of the several states, codes of law and custom, which have great authority in many parts;—the celebrated "Malay Annals," translated by Dr. Leyden;—and various editions of the voyages of Sawira Gading, the heaven-descended hero of this nation—are almost all the works of any antiquity which have been made known to Europe. Many more exist, of which the names will be found in Dr. Leyden's list, Marsden's, and other Malay scholars', but few of them have been translated. Indeed, if one credit the opinion of the late Rajah Brooke, than whom no better authority could possibly be found, there are more *titles* current and accepted than there are written works, but I myself have seen manuscripts in Malay hands, and have heard passages from them read for the amusement and instruction of my crew, which, I feel quite sure, would be found of vast interest and importance to English geographers. One in especial I recollect, which treated, either as a main subject or episodically, of the invasion of Java by Malays, A.D. 1400, and the destruction of the great city Mudjophite—if I rightly

remember the name. But, as has been said, there are too few persons interested in the Malay language or literature, and a pressing danger exists that we may lose some or all of these curious records.

And this consideration brings me to the last point on which I would touch. Of all towns of the world Liverpool has the most widely extended commerce. Your ships sail to every quarter, bearing in many cases citizens of intelligence resident among you, who go out on their own business, not pressed for time, nor too much engaged with the details of that transaction which has necessitated their presence. Such gentlemen I have met, pleasantly wandering up and down the Eastern countries, surveying their natural objects of interest, and observing with no unintelligent eye the various records of antiquity which from time to time they encounter. Unfortunately these gentlemen, though amply endowed with means to further geographical or historical research, do not generally possess much knowledge of the special objects in demand by our learned societies, more particularly in regard to geographical matters. If a manuscript be offered them for sale, as frequently happens, they look rather at its quality as a work of art than at the particular interest or value of its contents; for they have no means of distinguishing between a copy of some well-known and well-edited manuscript and some inestimable treasure that has not hitherto been brought before the eyes of our *savans*. Resident in Liverpool, they have not the opportunity to keep themselves acquainted with the progress of geographical research, and doubtless let slip many chances of furthering that science from mere ignorance that their evidence would be of value in regard to this or the other point. But why should not Liverpool have its own Geographical Society? If we quit the special ground which I have been treading to-night, there will be seen yet stronger proof that such a society is particularly needed in your town, and would

probably be of very singular service to the general cause. You have among you retired seamen, merchants, and others, whose wanderings in the pursuit of their business must have made them acquainted with most valuable facts in geography and ethnology. Give these gentlemen the opportunity of meeting together, of discovering gradually, by conversation and debate among themselves, by hearing the crude opinions of other people, by reading the discussions of our London society, what it is that our learned men know, what they seek to discover, and where they hold mistaken views—I have no doubt that within a short time the Geographical Society of Liverpool would take very high ground indeed, especially for the practical nature of its discussions. The parent body in London, headed by our venerable President, would greet with most cordial welcome its young sister. In Liverpool, with a few of your leading merchants on the list of members, geographical science would make rapid strides. What country in the world is unvisited by their ships? If the captains, clerks, doctors, supercargoes, and other officers of intelligence, had orders to gather information, from all sources open to them, on the phenomena of nature, the characteristics of the land, the peculiarities of the race, in every clime to which they travelled, we might with reason expect the most valuable result from their enquiries. At present such men are like children wandering in a realm that teems with precious stones. They know not what to search for; they toss aside some gem of priceless merit to secure a tawdry pebble, or preserve pebble and gem alike with equal care, knowing neither the value of the one nor the worthlessness of the other. I feel confident that the suggestion only was needed to induce the formation of such a society, which would bring not only increased honour to your town, but besides, a lasting benefit to the cause of science.

ARCHÆOLOGY IN THE MERSEY DISTRICT, 1868.

By Henry Ecroyd Smith.

(Read 16th April, 1869.)

No general remarks are requisite in relation to our limited archæological doings during the past twelvemonth, which will speak for themselves.

Roman Coin at Parkgate.

A labouring man recently turned out of the soil, in an arable field in the vicinity of Parkgate, a second-brass coin of *Claudius Cæsar*, reverse LIBERTAS, AVG; in the field a figure of Liberty standing.

The occurrence of even an odd coin of Roman fabrication is noteworthy in these sceptical days, when even Roman knowledge as well as utilization of our shores is denied by some local writers. The above incident adds a small but useful link to the growing chain of evidence utterly condemnatory of such a groundless theory.

Excavations at Wilderspool, near Warrington, 1868.

Dr. Kendrick, of Warrington, has kindly furnished the following account:—"The excavations at Wilderspool, near "Warrington, have been carried on extensively during the "year 1868, and the increasing quantity of Roman remains

"found there during this period furnishes undoubted confir-
"mation of Dr. Robson's idea, that this is really the site
"of the 'Condate' of the 2nd and 10th Itinera of Antonine,
"which here crossed at right angles. A map of the dis-
"trict has become necessary to any particular description of
"the excavations at Wilderspool, and before the commence-
"ment of the next session of the Historic Society it is my
"intention to have one made upon a sufficiently large scale
"for present and future reference. On this occasion I shall
"restrict my remarks to an enumeration of the Roman
"remains which have been found here during the year 1868.

"Fragments of Roman pottery have been exhumed in large
"quantities, but the only entire specimen is a small hand-
"lamp, bearing on its base the letters 'F.FOCA.' The chief of
"these fragments are of the ordinary coarse structure and
"material, but there are also specimens of the blackened or
"Upchurch ware, and of the finer sort, known as Samian.
"Of these last the chief ornamentation consists of hunting
"scenes and floral devices, representations of the human
"figure being rare. In every other respect the specimens
"resemble the ordinary relics of Samian ware.

"At an interval of a few months the base and capital of a
"large stone pillar were exhumed, which may have formed
"part of an outer portico or door-way. Although the design
"is massive and bold, the execution is rude, marks of the
"pick-axe being visible on the surface, which is thus appa-
"rently left unfinished.

"The small hand-lamp, alluded to above, is the only entire
"specimen; it still retains the stains occasioned by the over-
"flow of the oil with which it was formerly filled.

"There is a great demand for the sand of the locality for
"building purposes, affording every prospect of these interest-
"ing excavations being carried on vigorously in future, to the
"great satisfaction of our local archæologists."

UNPUBLISHED SEAL

OF THE CONSISTORY COURT OF ST. ASAPH,

1571,

In the possession of W. WYNNE FFOULKES, ESQ., *Chester.*

Occurrence of a Mediæval Seal.

The descendant of an ancient but decayed Welsh family, for some time resident in Liverpool, being in very straitened circumstances, lately disposed of to Mr. J. Harris Gibson, a brass seal, which this gentleman has kindly brought under my notice for publication, as there can be little doubt of its preservation as an heir loom in a private family for a lengthened period. In common with the eccentric Mr. Micawber, antiquaries are always looking "for something to turn up," and this object thus rescued from oblivion, or the not improbable crucible, is as virtually unearthed as if dug from under a dozen feet of soil. The seal is in excellent preservation, produces a good impression, and measures, as represented, 2¾ inches in length by nearly 2 inches in breadth. The inscription round the rim runs—

✠ SIGILLVM CVRIE CONS DIOCESIS ASSAPHEN,

(*the seal of the Consistory Court of St. Asaph*), the interstices between the words being occupied by trefoils. The field comprises three compartments: in the centre the Judge sits under a canopy, robed, his left hand resting upon a clasped volume, roses and trefoils here occupying the interstices. Above is a little scroll ornament, and below appears the coat of arms of this official, charged with a *chevron* between three stags' heads *affrontées*, with the date of 1571 on top, much like the dates of Elizabeth's coins; but in this instance the arms divide the figures, two appearing to the left and the others to the right of the upper part of the coat, which Mr. Ffoulkes informs me is that of a descendant of Jarddur, Lord of Lleehwydwcha.

British seals are rarely found dated anteriorly to the seventeenth century, and enquiries upon the subject in the useful pages of *Notes and Queries*, vol. xii, third series, 1867, have only educed mention of two personal ones or

authentics, viz., one of Thomas de Beauchamp, 1344, and one of *gilded steel*, with folding handle, and manufactured for a member of the Stur family. Even of ecclesiastical dated seals but few specimens are known, the chief of these appertaining respectively to St. Augustine's Abbey, at Canterbury (the first year of Richard, King of England), 1189; Norwich, 1258; Winchester Cathedral, 1294; Cottingham Abbey, Yorkshire, 1322; Romney, 1358 (appearing as 1538, but the middle figures are believed to have been by some accident transposed); Aberdeen, double seal, 1430; Dean and Chapter of Canterbury, counter seal, 1540; Presbytery of Linlithgow, 1583. Upon the earliest of these examples the date appears in words; in the succeeding ones, letters are employed; and in the later, figures.

In the national *coinage*, dates first appear on the mintage of Edward the Sixth (1547—1553), the first known with a date being a testoon bearing, in letters, 1549. Numbers do not seem to have been introduced before the time of Philip and Mary, a sixpence of theirs being thus dated in 1554.

Taking all circumstances into account, the tardiness of our ancestors in adopting the French custom of recording the year of manufacture on coins and seals is remarkable and apparently unaccountable.

The head of the Consistory Court of St. Asaph, at the period in question, would doubtlessly be Thos. Davies, D.D., the Diocesan, who held the see 1562—1573, and was born at Llanbedr-y-Cennen, near Conway. It is very satisfactory to know that this interesting Welsh seal is now in possession of W. Wynne Ffoulkes, Esq., of Chester, an ardent collector of all remains illustrative of the history of the Principality.

Miscellaneous Objects.

Mr. H. G. Boorn Thompson exhibited at one of our November meetings the remains of a curious instrument in

hard stone, lately found by himself in a deep drainage-cutting, from twelve to fourteen feet below the level of *Chat Moss*, and at a considerable distance from any trace of cultivation. The article is about one inch thick, and six inches long, narrow at one extremity but gradually broadening out to the other, but at this end is much fractured; if edged here it has no doubt been a primitive *adze* or *hatchet*.

The same gentleman showed a *Half-Shilling* of Queen Elizabeth, dated 1580, a year in which, according to Mr. Hawkins's synoptical table of the reign, the only pieces issued from the mint were half-shillings and quarter-shillings, since better known as sixpences and three-penny pieces. The first coinage of Elizabeth contained no half shillings, but commencing with 1561 the denomination was so regularly issued that Mr. Hawkins makes it the standard of his synopsis of this long reign. The mint-mark in this example is a plain cross, a device used from 1577 to 1581. The coin was met with at Hurst Hall, ten miles north-westward of Manchester, a Tudor mansion now converted into a farm-house, but occupied by successive members of one family for the last century and a half. The portion of the park grounds where it was unearthed (8 inches deep), had not previously been ploughed within memory of the residents.

The writer, whilst bathing last August, picked from the beach opposite North Egremont a well formed *arrow-point* in bluish flint, one and a half inches long and of oval shape. Though evidently much abraded through long exposure to tidal action among the pebbles, it still exhibits the remains of a barb on either side. This object has no doubt been washed from the *debris* of the adjacent clay bank now protected by the river wall.

PRODUCE OF THE SEA-BEACH OF CHESHIRE.

The absence of propitious winds in connection with mode-

rately high tides during the past year has resulted in a very meagre show of relics, the larger portion of which have been added to the collection of Mr. Charles Potter.

The waste of the sand-brows between the house of Mr. Shaw at Great Meols and the Leasowe embankment continues as yet unabated, but at the former or westward point it is very probable that the steady extension of the Hoyle bank, now stealing opposite so as to be fast replacing the old "Dove" or "Drinkwater" spit of half a century ago, will effect ere long a sensibly protective influence. In this case a great diminution of the mediæval objects must be looked for, whilst the interesting and valuable Saxon ones may never more occur through tidal exposure, and only be met with as the result of incidental delving.

Before proceeding with the report, notice should be taken, in the interests of truth, of a most mendacious little publication purporting to be a "Guide to Hoylake, the Hoylake Railway and neighbourhood, by Braithwaite Poole," issued in this town within the last two years. Soon after appearance the author received a well-merited castigation at the hands of a contributor to a local and critical journal, but the writer of the article not being scientific has left unnoticed many capital points, which will be touched upon in their order. Instead of proving a *Guide*, the work

"Leads to bewilder and dazzles to blind,"

and, possessing far more false statements than pages, is aptly defined in that severest of critiques, "All that is new is not "true, and what is true is not new." In short, its publication is a discredit alike to the so-called *clever* author, the poor little bantling-line it tries to bring into notice, and the great town which has given it birth.

In the first paragraph, the distance from Woodside Ferry to the nearest terminus—for, like Mr. Bright's celebrated Skye

terrier, this railway has no distinguishable head or tail—is incorrectly given by this little railway manager. The same page acquaints us that the "noble river" Mersey was thus designated after "Belasamain, Queen of Heaven," copied no doubt from the excellent introduction to "*Mawdsley's Directory for Wirral* (1861)," but this unfounded assumption of Whittaker, handed down by others, has been satisfactorily controverted by Mr. T. T. Wilkinson and other recent authors, and is thoroughly exploded. *Mersey* was originally *mere-sea*, and named from the salt marshes of which it was composed before the waters of the Irwell forsook their old channel down the Broxbourne valley towards Dee. *Now* Mersey is a fine estuary of the sea, ever increasing in volume and straightening in its main channel, and though still familiarly spoken of as "the river" opposite Liverpool, yet the term is wholly incorrect in a descriptive "Guide" for strangers.

In the next paragraph Wallasey is called a "fishing village," and the water tower of the whole district is made to belong to it, neither assertion being founded on fact. Passing the outrageous description of "countless numbers of steamers, "*blockade runners*, and other large ships and *frigates*," as seen from the docks station, the reader is transported on the wings of the author's imagination to Bidston church, which is said to be "nestled among *lofty trees*," which Nature cannot for the life of her raise in this exposed marine locality; whilst the building itself, the tower of which fortunately retains some ivy on its western front, is said to be "nearly covered" by this picturesque climber.

Further on, Mr. Poole gravely informs us that the hill above is "formed of *boulder-stone*," a piece of startling news for Mr. G. H. Morton, who will be constrained humbly to revise his "Geology" of the district at the feet of this new Professor. As for accuracy, we might with equal reason be told that Bidston hill consists of *Welsh slate* or *granite*;

nay it would only have been in keeping with the unbounded impudence of these pages, had their concoctor endeavoured to tempt travellers to "the line" by the declaration of *auriferous quartz!*

Under the heading of MEOLS, this name is erroneously said to be pronounced *Meltz*, a misconception of *Melse*, which, by the by, never meant "pasturage," neither did it originate with the Meoles (not *Meolses'*) family, for both are derived from the adjacent sandhills!

Mr. Poole continues, "here we find a large pond, belonging to the Railway Company, *made for the accommodation of passengers, to fish in, and skate upon;* another pond, of still larger dimensions, is likewise available at Hoylake." The best comment on this are the facts of the Meols pit having been dug to supply material for the adjacent roadway over the line, whilst the shallow pool at the Hoylake terminus was formed in consequence of other ballasting requisites. The latter was *dried up* last summer, and thus the *kind providence* of the directors was neutralised. A more flagitious attempt upon the gullibility of the public, than the statement just quoted, can hardly be imagined; had this scientific and literary *brochure* been issued early on some first of April morning, it might have passed as a poor attempt at humour, but the seriousness of the writer is unquestioned.

HOYLAKE, though the most modern name in the whole district, we are now told "may be said to *embrace* the townships of Little Meols, *Hoose*, and Great Meols; but as well might Seacombe or Bebington be called Birkenhead. Its name is most absurdly said to be derived from small craft called "hoys," instead of the *Eye* or island now called Hilbre, (a few centuries back the three islets formed but one,) *Eye-lake* becoming corrupted into Hoylake.* The soil is incor-

* See *Transactions*, New Series, Vol. VIII, p. 101.

rectly said to be "*on gravel and sand*," whereas in the village the only soil, if such it can be termed, *is* sand alone, whilst the sod of the neighbouring fields landward covers a turfy bed.

No further proof of the incompetency and ignorant conceit of this writer is needed than his penultimate paragraph supplies. "*Much has been said and written to prove that "Hoylake rests on the top of a submarine forest, and that "it has been a Roman station.*" No writer has ever made such statements, but Mr. Poole may rest assured that neither he nor any one else can disprove the existence, between Great Meols and Leasowe, of subterraneous remains of two early and long extinct wood-growths, above which primeval, Romano-British, and mediæval objects have been found, incontestibly proving a series of successive occupations, extending through all periods of this country's history. Many other instances of gross misstatement might be pointed out, but those produced suffice to exemplify the utter untrustworthiness of this local "*Guide.*"

Primeval.

1 Piece of *slaty limestone* cut into a rhomboidal shape, such as occurs in tumuli of early character, though it is but recently these objects have attracted the notice of antiquaries, who incline to the opinion that they were used for *polishing* purposes. This example was found by the writer on the side of *Thurstanston Hill*, on the highest point of which he picked up some years ago a *flint chisel*, or rather the *finely ground and bevelled* extremity of one, a beautiful example of uncivilised manipulation.

1 *Limestone.* A rudely fashioned arrow point.

19 Objects of flint or silicious limestone, *pointed, hooked*, or in other ways *edged*, including a few of the so-called "Scrapers," supposed to have been chiefly used by our primitive ancestors for cleaning skins.

Romano-British.

1 *Billon or Base Silver Denarius* of Marcus C. Latienus, POSTUMUS, Usurper in Gaul, A.D. 260 to 267. The reverse has been so badly struck, or possibly injured in *recoining*, as to render its inscription around a standing male figure quite illegible.

1 *Third Brass* apparently of the *Tetrici*, the obverse bearing a bust of the father and the reverse that of his son; neither of the inscriptions are legible.

2 *Bronze Studs*, of small size, probably from a strap.

3 *Dress Pins*, fragmentary, plain.

1 *Buckle*, with central transverse bar for *acus*.

3 *Bow Fibulæ*; one, a plain but substantial brooch, nearly 2in. long, found by the writer upon a short range of the shore where *Saxon* objects have almost exclusively occurred, and lying considerably to westward of the Roman area. It is an additional instance to the numerous ones furnished by the exploration of the Rev. Bryan Faussett a century ago, of Roman-British objects, continuing in use to some extent far into the era of Pagan Saxondom. The prevailing notion that immediately upon the retirement of the Roman mercenaries from this country in the fifth century, its whole civilization collapsed, is simply an absurd popular error, based, like most of its class, upon mere assumption. This civilization, exercised for three centuries, could not possibly have pervaded the highest class merely, but favourably modified more or less every rank of life in this fine province. It is a poor compliment to pay the prosperous and intelligent population of this period, to assent to its sudden relapse into the semi-barbarism of the Gaul or Britain of Cæsar's day.

1 *Fibula* of the same shape, but more slightly formed; of later date, and probably made in the transition period just mentioned.

2 TERRA-COTTA. Fragments of "Samian Ware," washed out of the blue clay and left by the tide upon the surface of the upper forest-bed.

1 GLASS.—*Pin-head* of transparent emerald green.

By far the most valuable discovery of the year is that of *human cremated remains* of this period, characterised by peculiar if not extraordinarily exceptional circumstances. The writer has repeatedly noticed portions of burnt bones embedded in the upper blue clay mentioned, but these had never been identified as human, although strongly suspected to be such. The various skeletons which at times have occurred on this shore, as the notorious one at Leasowe in 1864, and a still more recent example in the brow near the "Redstones," are, without exception, of recent origin; in short, no human remains of a really early date had been recognised.

The writer, accompanied by a young friend, was lingering in the gathering shades of an August evening near the old forest stumps, hoping ere departure to find some relic of this period, when a circular patch of black matter on the blue clay attracted his attention. Though already ravaged by the tide, it nevertheless retained what proved to be portions of the cremated head of a child, of from 8 to 10 years of age, including fragments of the crown and back of the skull and a couple of incisors. The blackened brain and charcoal confined nearly to the capacity of the skull, had naturally given the idea of an interment in a round hole or possibly an urn, though no signs of such a receptacle remained. The absence of fragments of

other and larger bones, however, excited suspicion as to the correctness of this view, and led to a further search, resulting in the discovery of portions of the leg bones extended at length; but these had been subjected to so much superincumbent pressure as to be flattened together, and what with this fracture and their humid condition it was with the greatest difficulty a few pieces from one to two inches long could be cleaned from the unctuous soil for examination.

Evidence was secured that, for the purpose of this very unusual inhumation, the blue silt—probably forming at the time the surface-stratum—had been removed to the extent of about 4 feet by 1, in which the *partially cremated remains of a child were deposited at length, with the head to the west*, in a bed of sand, as a much dryer material than the silt. Although the grave had been dug in the closest proximity to the upper surface of the higher forest bed, they had not come into actual contact, and the fact suggests the query—was the latter known to the inhabitants of the district at this period? It is possible that the encroaching sea had not yet attacked it, but even were this the case at the distance of a mile or more seaward, the presence here of such a bed may not even have been suspected.

Instances of *cremated* human remains being interred at length, have been so rare, that it will probably prove a very difficult task to find a parallel case. Although the general use of the *rogus* or funereal pile of the Romans was discontinued by them some time anterior to the withdrawal of their troops from Britain, yet isolated cases recur up to a late date, and, more puzzling still, tumuli of the *Anglo-Saxon* period in Derbyshire and elsewhere have produced cinerary urns

unquestionably the manufacture of this Scandinavian race, though probably of earlier date than the introduction of Christianity, or at least its diffusion throughout the heptarchal kingdom.

Whatever opinion we may entertain on this point, it seems clear that the present case of deposition has been effected during a *transition-period*, whether it be termed late Roman or early Saxon, and this point conceded, a remarkable confirmation is supplied to the writer's arguments in previous annual notices, in favour of this identical blue silt being a product or formation of at least a portion of the Roman-British era, the objects then lost sinking through water, as around the *crannoges*, and becoming enveloped in the constantly accreting residuum below. Upon the drainage or evaporization of the mere, this bed would soon be covered, as we find it by drift sand during westerly gales, some of which has apparently been utilized to pad the otherwise damp receptacle for the dead.

Saxon.

1 Bronze.—*Pin-Brooch*, with cruciform ornaments.
1 Ear-ring.
1 Glass.—*Head of a Pin*, of a dull green colour and opaque.

Mediæval.

3 Silver.—*Pennies** of Henry II, 1 minted at London, 2 uncertain.
6 *Ditto* of Henry III, viz., 2 London, 1 Bristol, 1 Gloucester, and 2 uncertain.
2 *Ditto* of Edward I or II, 1 London, 1 Lincoln.

* A few odd halved pieces are included in this designation. As yet no two halves found on this shore have been identified as originally one.

2 *Halfpennies*, Edw. II, of the London mint. One of these is one division of a quartered piece, thus constituting a *mite* in value.

1 *Farthing*, Edward II, London.

1 *Brooch* of quatrefoil form, with fleur-de-lys in the angles; centre a round cusp, with chequered base, which was probably filled with coloured pastes.

2 *Fermails*, plain.

3 LATTEN.—*Brooches*, various, imperfect.

2 *Fermails*, respectively $\frac{3}{4}$ in. and $\frac{1}{2}$ in. diameter, perfect.

6 *Dress-pins*, including several ornamented *heads*.

2 *Needles*, $2\frac{1}{2}$ in. and $1\frac{1}{2}$ in. long.

1 *Key*, formed as usual from a piece of sheathing.

2 *Rings* of uncertain date.

2 *Ear-rings*.

2 *Finger-rings*.

3 *Rings*, plain, of various thickness and uses.

91 *Attachments of Straps or Girdles*, viz., 28 *Buckles*, (including fragments, but of different examples); 13 *Hasps*, 4 *Keepers*, 9 *Tags*, 19 *Bosses* and *Studs*, and 18 other small ornaments.

1 Handle of cofferet, or drawer of a small box.

1 Loop, possibly from the frame of a gypciere or purse.

1 Portion of *Ornament*, elaborately executed.

1 Fishhook, 2 in. long.

3 PEWTER OR LEAD.—*Brooches*. One rectangular; another bearing rim of roses, alternating with ornamental cusps in high relief, which have lost their coloured settings; the third has been inscribed, but is only a fragment.

1 *Chape of Dagger-sheath*, with pierced ornament, $1\frac{1}{2}$ in. long.

1 *Spatula*, well tempered, and probably used in pharmacy.

1 *Pendant of a Girdle*, inscribed I.H.S.

19 *Attachments to Straps*, viz., 2 *Buckles*, 1 *Hasp*, 1 *Tag*, and 15 *Studs*.

4 *Rings*, plain and ornamented.

6 *Links*, of small size, from a chain; a perfect one has an acorn-shaped termination.

5 *Fragments* from the *mountings* of wooden cofferets.

1 *Head* of a large dress or hair *pin*, which possesses a lateral orifice communicating with the central perforation.

1 *Net-sinker*, rectangular, with numerous partial perforations, only one being completed. Found upon the New Brighton shore.

1 *Spindle-whorl*.

4 IRON.—*Clench-bolts* from old boats.

1 *Knife*, with carved bone handle, 16th century.

3 *Hooks*, various.

1 IVORY OR BONE.—*Handle* of knife just mentioned, carved in striated and herring-bone patterns.

1 *Handle* of a smaller knife, with carved ornament, 2½ in.

1 LEATHER.—*Boy's Boot*, 9 in. long,—cut from *one* piece of tanned leather, and the inner side from the heel severed diagonally in a chevroned or vandyked manner. It was tightened at the ankle by an incision from the top, laced by a leathern thong. Date 15th or 16th century.

26 TERRA COTTA.—*Fragments of Household Crocks*, of 12th to 17th century, many unglazed, others partially so. A few are ornamented with rudely incised patterns, and others blackened through use (or abuse,) on the fire; two have apparently been broken into a square form, probably for draughts or other game. Several of the above were found on Hilbre.

3 GLASS.—*Beads*, including both the globular and annular shape, straw-coloured.

1 *Head of a Pin*, straw-coloured.

1 STONE.—*Spindle-whorl*, 2 in. diameter.

Later English.

This may be the best place for recording the discovery upon Hilbre by Mr. Hughes, of the foundation of a *circular building, excavated in the solid rock* close to the present verge of the western cliff, and about 100 yards N.W. of the telegraph station. That it has been formed for no common purpose, the semi-circular hollow, evidently for the revolution of a wheel several feet in diameter, and the irregular horizontal compartments filling up the ground floor, incontestably prove. Before investigation it was assumed to be the remains of the mediæval lighthouse here sustained—though how long history sayeth not—but the probability is strongly in favour of its proving the basework of machinery for raising the sea water in connection with the adjacent *salt works* mentioned in the writer's last report, several walls of which yet remain like the sandstone rock foundations, but little beneath the sod. This appropriation is confirmed by the existence of a channel one foot wide also cut in the rock, and continued to the cliff's edge, down which the waste water could pass off. Mr. Charles Hardwick, who visited Hilbre soon after the discovery, has kindly promised a plan of the excavated rock from a sketch and admeasurements taken on the spot. In addition, one section of the superior arch of masonry completing the circular stone enclosure for the wheel, was dug up close by.

1 COPPER *Halfpenny* of Charles II, "*Carolus a Carolo.*"

8 BRASS *Knee Buckles*, 3½, 2½, and 2 inches long respectively.

1 *Brooch* in form of a flower, surrounded by 6 smaller ones affixed to a disc, *temp. Queen Anne.*

2 PEWTER Knee Buckles, one 3¼ by 2 inches.

1 Portion of a Mould.

3 TERRA COTTA *Heads of Clay Tobacco Pipes* of 16th century, devoid of potters' marks.

8 Ditto of 17th century; marks, "THOMAS NEYS" on the rest, and "H. P." in a radiated semicircle or horse-shoe ornament.

3 Ditto of 18th century, without marks.

1 Mould in pipe-clay for rifle bullets, exteriorly heptagonal.

Animal remains from the various littoral strata have occurred less numerously than usual, though they include bones or teeth of deer, horses, oxen, swine, sheep, and dogs. No fine antlers have recently occurred, and the few small horns of the *Bos Longifrons* belonged to immature individuals. The skull of a small species of whale, found to eastward of the Leasowe embankment, proves the sixth cetacean relic recorded on this shore in a fossil state. Its measurements are—length 10½ inches, breadth 9 inches, spinal orifice 1⅝ by 1¾ inches.

---

282 Total number of objects of archæological interest found in or near the sea-beach of Cheshire, irrespective of human and animal remains.

SYNOPSIS.

1. DATE.

Primeval	22
Romano-British	15
Anglo-Saxon	3
Mediæval	219
Late English	23
	282

2. MATERIAL.

Silver	17
Bronze and Latten	137
Pewter and Lead	46
Iron	8
Terra-cotta and Glass	48
Stone	23
Ivory or Bone	2
Leather	1
	282

ON THE GAINS AND LOSSES IN HISTORIC PROGRESS.

By David Buxton, F.R.S.L., Hon. Sec.

(Read 14th January, 1869.)

In the recent festive season, which, besides its sacred associations, has been so indissolubly linked with our literature, in the works of Sir Walter Scott, Washington Irving, Charles Dickens, and others, I had the opportunity of hearing, in a distant part of the country, a Lecture on Christmas Carols, which was accompanied by many interesting poetical and musical illustrations. Some of the older carols quoted were characteristic and quaint: some of the later ones were genial and appropriate; but, between these, there came some, which truly to describe is to say that they were of the vilest character of badness. The "sense" was nonsense; the measure was doggerel; the tunes (I cannot say, the music) were the veriest sing-song. These were the carols of the last century. There was no good carol-singing then. There were no good carols to sing. Now this, which appears to be *two* facts, is only *one*. And if we look at it, closely and carefully, we shall find that it very noticeably exemplifies a principle which further enquiry will shew us to be of very wide and general application. It is this:—

When a thing is neglected, the power of appreciation dies out: and the neglect of one age entails a positive loss upon succeeding generations. The age which cared nothing for Christmas carols, left the following age no Christmas carols worth caring for. One age stands still, and the next retrogrades.

I think the principle here indicated is of very extensive application; that it illustrates and accounts for many incidents and apparent anomalies in that erratic thing called Human Progress; and that its manifestations are consistent and uniform, though its operations are in fields utterly remote and diverse.

Look, for instance, into our own immediate subject of Archæology. Is there not, in every volume it unrolls, a story told, of attainments made and then surrendered; of successive arts arrived at and then lost; of craft, and cunning, and skill, in design and workmanship, which we admire and wonder at, but which we cannot emulate or imitate;—which have died, either with the hand that wrought them, or with the generation in which they flourished? When "there arose up a new king "over Egypt, which knew not Joseph," (Exodus i, 8,) then all the blessings which had been showered on Egypt through the incoming of the Hebrew immigrants were forgotten; and the race which one grateful Pharaoh had delighted to honour became the object of oppression and cruelty to his degraded successor.

All History tells the same story.* So also does Art. The massy construction of the Pyramids was effected by mechanism of which succeeding ages were as ignorant as the savage of

* The generation which denounced mince pies, and suppressed the Christmas festival, by Act of Parliament, did not stop there. They deprived their children not only of Plum Pudding, but of King, and Church, and Archbishop, and House of Lords: and the profanation and destruction which an American Bishop has so glowingly described in the verses given below,+ have been followed by this result—that from that day until our own, during a period of not less than two centuries—there never was built a single church in this country which any man of taste and knowledge is not ashamed of. I say this, remembering all the while the great merits of the works of Wren. But though St. Paul's is a magnificent building, it is not a Church.

+"And a lawless soldier tramples
Where the holy loved to kneel,
And he spurns a Bishop's ashes
With his ruffian hoof of steel!
Ay, horses have they stabled
Where the blessed martyrs knelt,
That neigh where rose the Anthem,
And the Psalm that made us melt.

There once a glorious window
Shed down a flood of rays—
With rainbow hues and holy,
And colours all ablaze!
Its pictured panes are broken,
Our fathers' tombs profaned,
And the font where we were christened
With the blood of brothers stained."

Christian Ballads.—By Bishop Coxe, of Western New York.

the wilderness. The sculpture and the architecture of ancient Greece stand at a point which leaves all after generations far behind. We cannot paint like Raphael, or Titian, or Rubens. We cannot fabricate the light and graceful work of such artificers in iron as Quentin Matsys. We are only just groping and finding our way back to something like, yet far inferior to, the work which the unknown architects of our abbeys and cathedrals wrought in the middle ages, poising the "high-"embowed roof," in an airy lightness which seems too fragile to endure, yet which stands to-day as firmly as it did five centuries ago. We admire, but we despair of imitating, the exquisite work in silver of Benvenuto Cellini. The art by which our fathers stained the glass which let in the "dim "religious light" on Milton's yet undimmed vision, is lost to their descendants: and the mysterious combination of materials by which the potters of days long past produced their matchless ware, leaves their products matchless, for we know not how they made them. Majolica, Chelsea, and other rare examples of earthenware are not only rare, but becoming rarer; for as the specimens perish, they cannot be replaced.

If this were the fitting time and place, and I the proper person to draw attention to it, I suppose the most direct and telling evidence in illustration of this subject could be drawn from the History of Religion in this country. I can only treat the matter historically, not polemically,—in the spirit of the critic, not in that of a partisan;—and in this way I call your attention to the fact, that what in one place is called "Church "Restoration," and in another "Religious Revival,"—while it is styled "Development" by one school, and stigmatized as "Innovation" by another, is, after all, marked by one character, and is referable to one cause, namely, the desire to reach a point which has once been attained, and then lost;—the burning longing to vitalize forms which have become dead; to revive doctrines which have lost their hold; to renew what

has become obsolete; and to make the men of this generation answer to appeals which thrilled to the very core, in days gone by, brave men and strong,

> " Whose bones are dust,
> Whose swords are rust,
> Whose souls are with the saints we trust.

Thus, whether the watchword and the striving of the zealous be for "Primitive Christianity," "the Catholic Faith," or "Evangelical Religion;" the motive and the purpose are the same, in each case. Martin Luther and George Fox; John Wesley and Edward Irving; not to speak of our own times, and quote the names of living men—all owned the power of this spell; all acted under this impulse; all strove, in their manner, and after their light and power, to awaken men's souls, as St. Paul had done, and to make it visible before the world, that "GOD had not left Himself without a witness" in the dreariest and most degenerate times; but that CHRIST was verily, as He had promised to be, with His own people, always, "even to the end of the world."

But perhaps this is to regard the subject in an aspect too serious for the occasion. And, to come down to lower themes, is it not true that if you neglect any faculty of the body, or attribute of the mind, its strength fails, its purpose is imperfectly fulfilled, it dies away for want of exercise? Neglect a child, and it will die. Neglect a plant, and it will perish. Cease to care properly for anything, and you will soon have nothing to care for.

So in like manner, in the life of the body politic. If you have gained a footing in advance, you must maintain it. We are laboriously and painfully toiling up hill in all the victories we achieve over matter and the powers of resistance—physical and moral. We are urging on before us a spherical body, which, if it is not pushed onwards, will roll backwards. It can only be moved onwards and upwards by our unflagging,

energetic efforts: it will not stand still, even, unless we hold it there; and if we leave it to itself, the advantages so hardly gained are speedily lost again. I think I have heard it stated that in some departments of medical science the ancient sages unlocked mysteries, and found secrets revealed to them, which have ever since been closed against their successors. The Ancient Masters in painting are at once the admiration and the *despair* of their posterity. The art of teaching the deaf and dumb was discovered and actually applied by a Spanish monk (Pedro Ponce de Leon) in the thirteenth century: but it was not until the middle of the eighteenth that the steps were taken which have led to the establishment of schools for their instruction—nearly all within the last fifty years—in almost every country in Europe, and the principal States in America.

So in our Literary history. After the age of Elizabeth had been dazzled with the splendour of Shakspeare, Spenser, and other great men of those days, the reign of James had nothing to amuse itself withal but the antics of the pigmies. After Milton and Dryden, and the great names of the Restoration period, had departed; and Addison, Swift, and Pope, had given their lustre to the reign of Queen Anne, we drop down upon the dreary *regime* of the Georges: and though Johnson and Goldsmith are to be mentioned with honour, we cannot forget that even Johnson himself, in those degenerate days, could condescend to notice, and to commend, the rubbish of the so-called "English Poets," whose natural dead weight would have sunk them into oblivion, if their critic—Johnson himself—had not by his notices of their eventless lives and dreary works, floated them into familiar knowledge, though not to fame. Indeed I know scarcely any more humiliating period in our history than that which Thackeray has included in the term of the "Four Georges." In morals and religion, in public spirit and political sagacity, in art and science, in

has become obsolete; and to make the men of this generation answer to appeals which thrilled to the very core, in days gone by, brave men and strong,

> " Whose bones are dust,
> Whose swords are rust,
> Whose souls are with the saints we trust.

Thus, whether the watchword and the striving of the zealous be for " Primitive Christianity," " the Catholic Faith," or " Evangelical Religion;" the motive and the purpose are the same, in each case. Martin Luther and George Fox; John Wesley and Edward Irving; not to speak of our own times, and quote the names of living men—all owned the power of this spell; all acted under this impulse; all strove, in their manner, and after their light and power, to awaken men's souls, as St. Paul had done, and to make it visible before the world, that " GOD had not left Himself without a witness " in the dreariest and most degenerate times; but that CHRIST was verily, as He had promised to be, with His own people, always, " even to the end of the world."

But perhaps this is to regard the subject in an aspect too serious for the occasion. And, to come down to lower themes, is it not true that if you neglect any faculty of the body, or attribute of the mind, its strength fails, its purpose is imperfectly fulfilled, it dies away for want of exercise? Neglect a child, and it will die. Neglect a plant, and it will perish. Cease to care properly for anything, and you will soon have nothing to care for.

So in like manner, in the life of the body politic. If you have gained a footing in advance, you must maintain it. We are laboriously and painfully toiling up hill in all the victories we achieve over matter and the powers of resistance—physical and moral. We are urging on before us a spherical body, which, if it is not pushed onwards, will roll backwards. It can only be moved onwards and upwards by our unflagging,

energetic efforts: it will not stand still, even, unless we hold it there; and if we leave it to itself, the advantages so hardly gained are speedily lost again. I think I have heard it stated that in some departments of medical science the ancient sages unlocked mysteries, and found secrets revealed to them, which have ever since been closed against their successors. The Ancient Masters in painting are at once the admiration and the *despair* of their posterity. The art of teaching the deaf and dumb was discovered and actually applied by a Spanish monk (Pedro Ponce de Leon) in the thirteenth century: but it was not until the middle of the eighteenth that the steps were taken which have led to the establishment of schools for their instruction—nearly all within the last fifty years—in almost every country in Europe, and the principal States in America.

So in our Literary history. After the age of Elizabeth had been dazzled with the splendour of Shakspeare, Spenser, and other great men of those days, the reign of James had nothing to amuse itself withal but the antics of the pigmies. After Milton and Dryden, and the great names of the Restoration period, had departed; and Addison, Swift, and Pope, had given their lustre to the reign of Queen Anne, we drop down upon the dreary *regime* of the Georges: and though Johnson and Goldsmith are to be mentioned with honour, we cannot forget that even Johnson himself, in those degenerate days, could condescend to notice, and to commend, the rubbish of the so-called "English Poets," whose natural dead weight would have sunk them into oblivion, if their critic—Johnson himself—had not by his notices of their eventless lives and dreary works, floated them into familiar knowledge, though not to fame. Indeed I know scarcely any more humiliating period in our history than that which Thackeray has included in the term of the "Four Georges." In morals and religion, in public spirit and political sagacity, in art and science, in

all, or *nearly all*, that makes a people great, and a nation prosperous, this country was in a position which one cannot but regard with shame. I have purposely said in "nearly all" respects, for I must, from the sweeping denunciations of these various particulars, except *one*. It is this. The country which, whatever its other short-comings and offences, could annex India to the British dominion, actually by the courage of a mere handful of men fighting against millions; which could afford to lose America and be none the weaker; and to battle with and crush Napoleon and his power, and be none the poorer for it; which sent forth the fleets of Nelson, the armies of Wellington, and the expeditions of Cook, had power and life within it which have now, thank GOD, borne worthier fruits in other fields. May they be perpetual!

Every privilege gained, every right conferred, every difficulty overcome, every advance achieved, must be *held good*. *Quod tuum, tene*, was the motto of one of the most illustrious of Lancashire worthies (Sir Humphrey Chetham). In its best sense, it should be ours. The attainments, the victories, the gains of every generation, are the patrimony and heritage of their posterity. The voices of all the ages past, the claims of contemporary interests, and the rightful expectations and demands of the ages to come, all express themselves in the charge of the aged apostle to his disciple Timothy—"Keep "that, which I have committed unto thee."

THE SO-CALLED "PETRIFIED HUMAN EYES," FROM THE GRAVES OF THE ANCIENT INDIANS, ARICA, PERU.

By the Rev. A. Hume, D.C.L., F.S.A., &c., Vice-President.

(Read 14th January, 1869.)

A very large portion of the Republic of Peru, especially that which is near the Pacific coast, forms part of an extensive district in which rain is unknown; and in several important respects,—especially in the periodical overflow of many of its rivers,—it bears a marked resemblance to Egypt. This state of things is partly an effect of the improvidence of the ancient Spaniards. They cut down forest trees wherever they could find them, for the purpose of smelting the minerals in the neighbourhood; and hence, rain, which had been small in quantity, disappeared entirely; vegetation ceased except along the banks of rivers; and the sands of the desert buried hundreds of square miles, previously fertile.

Stretching from Arica on the coast, in Lat. 18° 27′ S., the railroad passes over thirty-nine miles to the town of Tacna, which is on the high road to the Cordilleras, and to Bolivia. This is now a treeless waste of sand, which sparkles with myriads of hexagonal crystals of salt; indeed scarcely a shrub or blade of grass is to be seen. Yet it was formerly known as "the *Forest* of San Juan de Dios;" and no doubt trees were abundant, as in many other places of the same

kind, where now the railway traveller may see the *mirage*, perhaps every day of the year.

At Arica, and in the immediate neighbourhood, animal matter does not decay as elsewhere; it simply becomes desiccated. Hence, the bodies of Indians who were interred perhaps centuries before the arrival of the Spaniards, are turned up to-day as natural mummies; and specimens of them may be seen in most of the public museums of Europe and America. The Arica of the present time is only a seaport village; as the pretty little town was destroyed in the earthquake of 13th August, 1868. But even this town was modern; and it is believed that a great city, the inhabitants of which were largely engaged in fishing, occupied the same spot. Certain it is, that a large mound just outside of the town, consists in a great degree of human flesh covered with sand; and as the Peruvian government have forbidden all interference with these remains, the mound is not likely to diminish as it has done. It is recorded that the earthquake of last year separated a portion of the adjoining hill or "Morro," near a place known as "the Incas' cave;" and that a row of corpses was visible for weeks, each in a sitting posture as usual, and some with the former implements of their daily toil beside them.

At various times, there have been found, near these bodies, small hemispherical objects of amber-looking matter; and occasionally they have been found in the eye-holes of the skulls. These objects have naturally been supposed to be human eyes; but as they have become completely solidified or hardened, they have been called incorrectly (even on that theory,) "*petrified* human eyes."

I saw two of them at Iquique in the South of Peru, and heard a great deal about them all along the coast. On my return, in July 1867, I found that they were still occasionally picked up, by the workmen who were engaged in preparing

sites for the cannon to defend the port; and as they did not come under the head of corpses, and could be readily secreted in the pocket, they were carried away and sold. When the interior hemisphere of the object is started out of its corresponding socket, it appears like a split pea of solid gold; and the young men of Arica and Tacna frequently get them mounted, to serve as shirt studs. An English woman who had a small shop, collected in barter numerous antiquities and curiosities from the workmen, without any distinct idea of what to do with them; and from her I procured several objects of great interest. Among these was her stock of "eyes," the current retail price of which was half a dollar, or about 1s. 6½d. each.

Such being the simple facts of the case, I proceed to give the only theories which are known on the subject; in the hope of eliciting some final decision, on the best evidence, as to what the objects really are. I may add that the subject is one which has greatly interested gentlemen of the medical profession, both in the United States and in England; and that the newspaper known as the *Panama Star and Herald*, which has a large circulation on the west coast, preserves and diffuses carefully, all the information obtainable on the subject.

I. *First Theory;* that they are bonâ fide *Human* Eyes.

Testimony of the late W. Billinghurst, Esq., Acting V. C. at Iquique.

"On my part, I have to state that when I resided in "Arica, I was a daily visitor to the scene of the excava- "tions in the Indian burying-ground, at the foot of the "Morro: and witnessed the exhumation of the bodies,— "many of which were in a perfect state as mummies. "The eyes were generally found in the vicinity of them, "and in some instances *were attached to the sockets,*

"which I think is strong evidence to confirm the belief "that they are human."

Report of Henry W. A. Coleman, Esq., M.D., Iquique.

"They are human eyes, in a state of petrifaction. The "external tunics have become decomposed, and obliter- "ated by time, leaving only the vitreous humour with its "*membrana hyoloidea;* and having the crystalline lens "imbedded in its cup-like excavation, or *fossa hyoloidea.* "By continuous boiling with water, this lens becomes "separated; and its compact membrane or capsule can "be distinctly seen. The *nucleus* of the lens is easily "distinguished, also the subdivisions of its surface, "showing its three layers concentrically arranged like "those of an onion, which by a minute examination can "be seen to be closely aggregated fibres."

II. *Second Theory;* that they are the Eyes of *Fishes.*

From Dr. MacDowell of Taboga Island. *Panama Star and Herald,* January 21st, 1865.

"The Indians were cunning workers in gold and "precious stones, and in elegant textures of cloth. The "Indian also took to the grave with him, his most valu- "able things;—*chicha* and favourite provisions, jugs "and water coolers. The so-called 'eyes' are greatly "sought after. They are brownish in colour, and with "pearl-like reflections; formed of concentric cup-like "laminæ, peeling off like the coats of an onion, on the "convex side. Viewed in front, these laminæ form con- "centric circles, diminishing to a round minute ball in "the centre; while numerous fine lines run like radii "from the centre to the circumference. The form is "that of a plano-convex lens, with a diameter of ½ of "an inch, and a vertical axis of ¼. The substance is "evidently organic, but in no other way has it any affinity "with the human eye. With the difference that the stri- "ated lines run transverse instead of radial, it exactly "resembles the eye of a shark. I lately made a dissec- "tion of one of these eyes, and hardened the lens in "acetic acid; and it assumed almost the exact appear- "ance. I feel that they are the eyes of some similar

"animal;—but it is a question for the microscope and "for comparative anatomy."

III. *Third Theory;* that they are the *lenses of the eyes of a Cephalopod.*

A Paper was read at the Ethnological Society of London, 10th January, 1865, by Sir Woodbine Parish; of which the following account is given in the *Athenæum* of January 21st:—

"Associated with the interments of the ancient Peru- "vians, there have long since been found certain "hemispherical amber-coloured objects, which the late "Mr. Clifts of the College of Surgeons, determined, "from some specimens shewn to him by Dr. Wollaston, "to be the desiccated eyes of the cuttle-fish,—an opinion "now confirmed by Professor Owen, and Mr. Bowman. "Lieut. Rising, R.N., who forwarded the present speci- "mens to the author of this paper, found them in the "sockets of the eyes of some Peruvian mummies at Arica. "The purpose to which they were applied is thus defi- "nitely settled."

To this last fact, the late Mr. Billinghurst adds,—

"They are found often in the sockets, with a black "matter adhering, like coagulated glue."

This was supposed by some, to be one of the coats of the eye dried up; and by others to be an artificial substance, for the purpose of making these foreign bodies retain their new places.

IV. *Fourth Theory;* that they are *vegetable* matter, not *animal.*

Extract of a letter from Dr. C. M. Tidy, of Cambridge Heath, Hackney, London.

"When I received the eye, I showed it to my colleague "Dr. Letheby, as well as the Professor of Comparative "Anatomy at our Hospital. We were all agreed in this, "that it was not a human eye, nor was it the eye of an

"animal at all. Dr. Letheby's impression at once was, "and I perfectly agree with him, that it is a resinoid "exudation from some tree; and this I proved further "by analysis. The *form* is at once explained by this; "the concentric laminæ also;—and the various colours "that are apparent may be explained by the length of "time that elapsed between the exudation of one lamina "and another, and the amount of oxidation it would "undergo. I have myself no hesitation in stating that "it is a *vegetable* and not an *animal* product."

With such a wide difference of opinion among those who should be the best qualified to judge, a non-medical writer should be cautious in the expression of an opinion. Yet there are two considerations, apart from the examination of these objects themselves, that are entitled to some weight.

(i) The first is, that the idea of Immortality entertained by the heathen of all countries, including the Indian of South America, is merely that of human life re-produced, with some trifling alterations. Hence, one sees a logical reason why certain necessaries and comforts of human life, as well as the implements of war, the chase, or domestic industry, should be clustered round the bodies of the dead. It is supposed that all these things will be subservient to important uses, in the passage through the next world. But the very same principle in the Indian mind, appears repugnant to the idea of repairing the human frame with foreign materials. Why should the ancient inhabitants of Arica insert eyes,—either of animal or vegetable matter,—in the heads of their friends, any more than they would patch up a maimed person, with the leg of a mule or the teeth of a goat? They expected the man to re-appear as he had disappeared;—at all events in a condition no less perfect than that which he occupied in human life. It is just possible that the rude fishermen supposed their departed brother would pass to the world of

spirits *through the water;* in which case, one would see a reason, in their minds, for his being supplied with the eyes of a cuttle-fish, or of some other inhabitant of the water, of recognised powers of vision.

(ii) The second consideration is, that if these objects be formed by numerous coats of vegetable gum, dropped and laminated round a common centre, at considerable intervals, then something of a similar kind should be found still, in the same locality, or in neighbouring places under the same conditions. Although the forest of San Juan de Dios has disappeared, the flora of South-western Peru are well known; and there could be no difficulty in ascertaining, whether there be at the present time, exudations of the form and colour of those which we have been examining. Even if this were ascertained, two questions would still remain; viz. (1) are they produced by hundreds, so as to supply, if necessary, the requirements of a whole city of the dead? And (2) how does it happen that they are almost invariably of the same size,—viz. that of a boy's large marble, wanting a segment nearly equivalent to a hemisphere?

A very remarkable fact is, that each of the various theories is enunciated with a degree of confidence that seems to exclude even a hypothesis of a contrary kind; and yet each is encumbered with difficulties of a moral or physical kind, which, for the present at least, appear to render its reception impossible.

POSTSCRIPT.

In the interval which has elapsed between the reading of the foregoing paper, and its being formally printed off,—further information on the subject has been procured.

I. One of the eyes was exhibited at the Meeting of the British Association at Exeter, and the various theories were

has become obsolete; and to make the men of this generation answer to appeals which thrilled to the very core, in days gone by, brave men and strong,

> " Whose bones are dust,
> Whose swords are rust,
> Whose souls are with the saints we trust.

Thus, whether the watchword and the striving of the zealous be for " Primitive Christianity," " the Catholic Faith," or " Evangelical Religion;" the motive and the purpose are the same, in each case. Martin Luther and George Fox; John Wesley and Edward Irving; not to speak of our own times, and quote the names of living men—all owned the power of this spell; all acted under this impulse; all strove, in their manner, and after their light and power, to awaken men's souls, as St. Paul had done, and to make it visible before the world, that " GOD had not left Himself without a witness " in the dreariest and most degenerate times; but that CHRIST was verily, as He had promised to be, with His own people, always, " even to the end of the world."

But perhaps this is to regard the subject in an aspect too serious for the occasion. And, to come down to lower themes, is it not true that if you neglect any faculty of the body, or attribute of the mind, its strength fails, its purpose is imperfectly fulfilled, it dies away for want of exercise? Neglect a child, and it will die. Neglect a plant, and it will perish. Cease to care properly for anything, and you will soon have nothing to care for.

So in like manner, in the life of the body politic. If you have gained a footing in advance, you must maintain it. We are laboriously and painfully toiling up hill in all the victories we achieve over matter and the powers of resistance—physical and moral. We are urging on before us a spherical body, which, if it is not pushed onwards, will roll backwards. It can only be moved onwards and upwards by our unflagging,

energetic efforts: it will not stand still, even, unless we hold it there; and if we leave it to itself, the advantages so hardly gained are speedily lost again. I think I have heard it stated that in some departments of medical science the ancient sages unlocked mysteries, and found secrets revealed to them, which have ever since been closed against their successors. The Ancient Masters in painting are at once the admiration and the *despair* of their posterity. The art of teaching the deaf and dumb was discovered and actually applied by a Spanish monk (Pedro Ponce de Leon) in the thirteenth century: but it was not until the middle of the eighteenth that the steps were taken which have led to the establishment of schools for their instruction—nearly all within the last fifty years—in almost every country in Europe, and the principal States in America.

So in our Literary history. After the age of Elizabeth had been dazzled with the splendour of Shakspeare, Spenser, and other great men of those days, the reign of James had nothing to amuse itself withal but the antics of the pigmies. After Milton and Dryden, and the great names of the Restoration period, had departed; and Addison, Swift, and Pope, had given their lustre to the reign of Queen Anne, we drop down upon the dreary *regime* of the Georges: and though Johnson and Goldsmith are to be mentioned with honour, we cannot forget that even Johnson himself, in those degenerate days, could condescend to notice, and to commend, the rubbish of the so-called "English Poets," whose natural dead weight would have sunk them into oblivion, if their critic—Johnson himself—had not by his notices of their eventless lives and dreary works, floated them into familiar knowledge, though not to fame. Indeed I know scarcely any more humiliating period in our history than that which Thackeray has included in the term of the "Four Georges." In morals and religion, in public spirit and political sagacity, in art and science, in

impelled him, in the face of adverse circumstances and innumerable difficulties, to the study and practice of architecture. He was trained and directed in the way he should go; his path was easy and his road was straight. He studied his profession in the office of his father, an architect and author, whose "Dictionary of the Fine Arts," published more than forty years since, though in some measure superseded by later publications, is still often referred to, and whose life of the architectural patriarch, Sir C. Wren, will always be read with interest, pleasure, and instruction. He survived his son for many years, and passed a considerable period of the latter part of his life in comparative affluence, and in the enjoyment of a widely extended professional reputation as surveyor to the port of London. Though the bias of young Elmes' taste and the bent of his mind was decidedly towards the classic and Italian styles of architecture, he had not, I believe, enjoyed the pleasure and advantage of visiting either Rome or Greece; and it is remarkable that Sir Christopher Wren, though his dome of St. Paul's far excels in beauty the domes of either the Pantheon or St. Peter's, had no opportunity, by personal inspection, of studying the beauties or avoiding the defects of either, and Elmes, though he designed a building exceeding in magnitude and rivalling in classical beauty the temple of Minerva, never ascended the Acropolis at Athens, or contemplated the splendour of the Roman Coliseum. But, great as are the advantages of foreign travel, yet so numerous are the publications, so accurate the measurement, so full and correct the delineations both of the general proportions and the minutest details of all the celebrated buildings of antiquity, that *fac similes* of most of them might be executed by any architect without stirring from the country of his birth, or even the town in which he was born. The actual effect of these buildings, as they exist and have their being, and how far their beauties are augmented by an advantageous or

diminished by an unfavourable site and position, personal examination and inspection alone can show; and it is possible, if these two eminent artists had travelled abroad, their works, great as they are, would have attained still nearer to the standard of perfection.

About the year 1836, it was determined to erect, by public subscription, a large hall for the performances of sacred music, which had formerly taken place at St. Peter's Church, at the triennial musical festivals. Plans were advertised for, and after a severe competition the prize was awarded to Mr. Harvey Lonsdale Elmes, who had just entered upon his profession in London. In 1838 the first stone was laid, on the Queen's coronation day, by the mayor, Wm. Rathbone, Esq., attended by the Corporation. The assizes for the southern division of the county having been transferred to Liverpool, it was determined by the Council to erect suitable assize courts for the purpose, and a competition of architects for the plans took place, and Mr. Elmes was again successful.

Difficulties having subsequently arisen in carrying out the scheme for the Musical Hall, the whole arrangements devolved on the Corporation, who employed Mr. Elmes to prepare designs embodying the objects of both plans. The result was the design for the present building, which, however, sustained considerable modifications in the course of its erection.

Of his own views and wishes, with respect to the carrying out of the building, and the difficulties and opposition he had to encounter and surmount, some extracts of his correspondence with Mr. Rawlinson give a lively picture. Mr. Rawlinson was intimately and most confidentially connected with him; his assistance did much to promote and enhance the success of Mr. Elmes, and his sympathy to alleviate the cares and anxieties caused by his failing health. He acted as his executor, and proved himself to be a constant, anxious, and efficient friend to his widow and orphan.

Mr. Rawlinson says of him:—

"Mr. Elmes was not great by accident; he studied unceasingly and "earnestly. The compasses he chiefly used were his eyes, and every "line was considered with reference to adjoining lines, and to the whole. "His mouldings are Greek in character, but they are essentially his "own nevertheless. In appearance Mr. Elmes was gentlemanly and "refined: as a jockey would say, 'showed breeding.' He was of middle "stature, light complexion, fair hair, and bluish-grey eyes. In mixed "company and before strangers he was silent, quiet, and observing, "but with those he loved or respected he was cheerful, talkative, and "pleasant. Enthusiastically fond of good music, Mozart, Beethoven, "and Mendelssohn were his great favourites, and he could not bear "that one note should be misplaced. Architecture and music he loved "most; painting and sculpture came in for a secondary share of notice.

"Although Mr. Elmes was retiring, he was neither shy nor diffident. "He could speak, and to the point, either to individuals or to com- "mittees, and was ever ready and prompt with the requisite information "or explanation. He could also defend or advocate with clearness, "force, and ability. All good men loved him, and with bad men he had "as little as possible to do. If his character could be known, as his "great work can be seen, it would be more admired by all those capable "of appreciating true greatness.

"R. R."

We preface our selection with a letter addressed to Mr. Elmes by Mr. Rawlinson, as reference is made to it in that which follows:—

"April 2nd, 1844.

"Being in Liverpool more or less every week, you are frequently in "my thoughts, as I see your genius at work raising that temple-like "structure to pleasure the 'merchant princes;' whilst you, Aladdin-like, "are afar off, rubbing the magic lamp. How truly do the powers of "the mind equal, nay, even surpass the most sublime fictions of Eastern "story. The fervid thoughts of the poet's fancy, once penned, never "die; the magic touch of the painter's brush is immortal; the melody "of the musician is eternal; and the creations of the architect stand "fast for the admiration of millions yet unborn. For man to accomplish "never-dying works is worth the enduring all the disappointments and

"envy and sorrow he is heir to; working in season and out of season, "to accomplish with diligence the great end of existence; bearing in "mind how short his time; living in love and charity with all man- "kind; striving after perfection as the only means to satisfy his "immortal spirit. Man,—the little, the great, the divine!—how "poor, yet how rich! how weak, yet how strong! A sudden blast "of the elements destroys him, but the creations of his intellect set "them at defiance; his material form vanishes from the earth, but the "eternal mind, God-like, with firmness grapples time. Who does not "recognize the great soul of Handel in his heart-thrilling choruses, new "'for ever and ever?' or the mighty spirit of Sebastian Bach, in his "temple-shaking fugues? or the comprehensive mind of Wren, in the "massive grandeur of St. Paul's? All men cannot attain to this high "distinction in the eyes of their fellow-mortals, but all will be awarded "according to the use or abuse of the talents entrusted to them.

"The train of thought has been brought to my mind by contemplat- "ing the completion of your majestic building, destined to arrest the "admiring gaze of countless thousands. In this respect architects have "the advantage over professors of every other art or science; and this "the ancients knew and studied, hence the majestic, awe-inspiring ruins "of the faded empires, Egypt, Greece, and Rome—the learned, the "refined, the mighty! Oblivion shadows their once teeming myriads, "the magician priesthood, the cunning schoolmen, the imperial "conquerors. From our visible senses all have passed; but the ruins "of their architecture are enduring amidst surrounding desolation, "standing like huge skeletons, creating wonder through all time, "attracting the aspiring student from every civilized part of the globe, "and becoming an eternal alphabet to every modern nation. Such is "the exalted power of architecture!

"R. R."

Elmes to Rawlinson.

"London, April 30th, 1844.

"My time, as you may suppose, while at Liverpool, is completely "occupied; and, as I am still without any competent assistant in my "office, my duties are more arduous and mechanical than is either "pleasant or desirable. The strain of poetical feeling in which you "have clothed your complimentary allusion to the great work I have "the happiness to superintend at Liverpool, has tended for a while to

" sharpen the edge of my enthusiasm for our art, which was already " beginning to grow dull, with endeavours to cut through the grovelling, " money-making, selfish ideas of nine-tenths of the community—and I " was beginning to believe that the regions of poetry and imagination, " although they may be regions of bliss, yet they were by no means " dwelling-places for those who have their daily bread to seek. Yet I " should be ungrateful were I to forget that an occasional visit into " those realms constitutes the greatest gratification of my life. It has " not unfrequently occurred to me, that I should like to know with what " feelings those who are unaccustomed to the technicalities of the pro- " fession observe the progress of a large building. I fear in too many " instances it is merely looked upon as a pile of stones, in its most " mechanical sense, and there are few who, like yourself, can perceive " the operation of a directing mind, and yet there are few who are " insensible to beauty or deformity; and, as you observe, architecture is " peculiar in being exposed to public gaze so much more than any other " art or science, it is surprising that so little attention is paid to it, and " so little value attached to the labours of those who study so important " an art. When, however, the public become better informed upon the " leading principles of the art, we may hope for better things.

" How frequently do I observe the great and true end and aim of art " entirely lost sight of, in the discussion of some insignificant detail or " quaint antiquarianism. Bold and original conceptions never can find " favour while so much stress is laid upon precedent. I say, let archi- " tects study Nature, but let no man expect to form a new style or " school—that must be the work of successive generations; but let each " add his mite towards it, and this country may yet rival her continental " neighbours in producing original and beautiful works, equally adapted " to climate, materials, and habits of the people. Yet, strictly speaking, " architecture is not an imitative art, and has no type in nature; and, " therefore, it may be urged, why study nature? I know your opinions " upon this too well to occupy your time with an answer. As you are " frequently in Liverpool, I can tell you no news concerning that place. " You will doubtless have heard that the committee have determined to " introduce polished Aberdeen granite for the interior columns support- " ing the great vault, upon which, by the by, I shall be very happy to " hear from you, relative to your thoughts thereon, which you men- " tioned to me when I saw you. You may imagine that scarcely a day " passes without my thoughts being fixed in that direction, and, as yet, " I have no fear of ultimately accomplishing it. I am having some

" diagrams prepared, which show the relative proportions of the arch " and its abutments, which I should like you to see.

" H. L. ELMES."

ELMES TO RAWLINSON.

" 11, GORDON STREET, Dec. 11th, 1844.

" My friend, Mr. Cockerell, is about commencing a new bank in " Manchester, a branch bank of the Bank of England; and I have " been endeavouring to persuade him to use our stone from Darly Dale. " I hear from Heathcote that he can lay it down in Manchester at " 1s. 7d. per foot, if you should require any of it. I am very desirous " of knowing more of Manchester, and I hope during the next summer " that I shall be able to spend a few days with you there.

" With respect to your observations on the Exhibition, I wish you " would try your hand at architecture, and stir up a little spark of " feeling for it; although in a domestic sense it must yield the palm to " painting, at least where carried beyond mere utility, yet the pleasurable " sensations, indescribable almost, produced by a well-proportioned and " symmetrically-arranged room, to go no further, are worthy of appre- " ciation. Architecture as a noble science and beautiful art, in the " highest sense of those terms, at present exists unfortunately only in " ruins, or in history, or imagination; but utility, and utility alone, " will ever save it from utter oblivion, and in all ages it must be " acknowledged as indispensable to human existence. These observa- " tions cannot apply to paintings, or to sculpture, not that I would part " with our handmaidens, but only claim an equal rank and equal " consideration. Consider, too, the effect produced by painting and " sculpture as auxiliaries to architecture; the first by rendering the " massive wall rich with varied colours, and indicating space beyond, " so delightful to anticipate; thus charming the eye, while the noble " subject may interest and instruct the mind. The latter, devoid of " colour, yet pre-eminent in form, the material harmonizing with the " architecture in massive durability; while the gracefully flowing " drapery, the marked expressive countenance, and the apparent " capability of motion, all contrast with the greater severity of the " architectural framework. Were this feeling general, alas for gilt " frames, and watch-boxes for statues.

" The predicted fall of my vaulted ceiling, made by the 'great

"authority' in Liverpool, I find has not been confined to that town; "it has been reported in London to have been abandoned.

"Notwithstanding these idle reports, I am proceeding steadily in my "purpose, and, with due care and attention, I entertain very little doubt "of ultimate success. I shall, however, like to have a little talk with "you upon it when we meet.

"H. L. E."

Elmes to Rawlinson.

"London, Dec. 25th, 1845.

"Your last eloquent and imaginative letter was really startling, and "quite aroused me from the dry, dull, every-day way of thinking, that "common-place but bread-and-butter-getting business is driving me to.

"My capitals for the columns inside must be bronze; the cove "being of granite prevents the introduction of marble. They will "require plenty of brass, and so shall I when I ask for the money for "them, I think. I am happy to say that I entertain no doubt but that "the pediment will be adorned with one of the richest compositions in "sculpture ever executed in this country.

"I am not afraid of a single brick in thickness at the crown of my "great arch; but I am very anxious, if I can, to introduce hollow "tile-work, although, if I understand you correctly, not exactly what "you mean. As the work proceeds, I am obliged to take up each part "separately; and that will shortly have its turn, when I should like to "have a little talk with you about it, and must manage to come over to "Manchester to see you. I hope you were pleased with the effect of "the granite columns.

"H. L. E."

The following letter is particularly interesting, as conveying Mr. Elmes's own idea as to the internal arrangement when finished. It has not been followed out:—

"London, Nov. 30th, 1846.

"Procrastination, they say, is the thief of time. That it is the thief "of men's good intentions I verily believe, for it has robbed me of three "or four really good ones every day since the 3rd instant, the date, I "am ashamed to say, of your last letter. I am glad you seem to like "my granite shafts. I would rather have them in their present integrity

"and honesty, capless though they be, than the most gorgeous scag-
"liola with real cement capitals that were ever designed. I hope
"when you 'contemplated the finished structure' that there was no
"organ at the end, but that you stood on the judges' platform in one
"court, your eye glancing along the ranges of ruddy columns on either
"side, in all richness and strong colour of a foreground; then reposing
"for an instant on the lofty arched opening communicating with the
"hall,—whose broad and richly coffered soffite throws a shadow upon the
"grey columns beneath, and forms the middle distance,—it pierces the
"atmosphere of the great hall, passes the corresponding opening into
"the other court, without distinguishing a particle of detail from the
"great distance, and finally rests upon the judges' throne in the other
"court. Such, my dear friend, is a faint expression of what I hope and
"trust some day we may see together. I have no doubt it is altogether
"below the standard which your imagination has led you to expect;
"but, believe me, no thought nor labour on my part shall be spared to
"make it worthy the admiration of all good men. To please all would
"be out of the question. I am in great doubt as to the material for my
"capitals; statuary would be a ruinous cost! What think you of iron?
"and if so, what process will preserve it from decomposition, without
"paint or periodical applications of that kind?

"I am much obliged for your sketches of hollow tiles; they would
"be admirable, and delight Dr. Reid beyond measure, as nearly the
"whole of the ceiling might be porous. But what can I do with such
"a contractor for brickwork as I have to do with, who puts every
"difficulty that ingenuity can devise in my way, instead of assisting to
"carry out the work properly?

"H. L. E."

Elmes to Rawlinson.

"Ventnor, Isle of Wight,
"June 24th, 1847.

"Anxiety and over exertion have at last made such an inroad upon
"my constitution, that about a month since I was obliged to leave
"London at a few days' notice, for the purpose of obtaining a little
"repose for the present; and I believe I shall be compelled to winter
"abroad. The difficulty of arranging matters, so that business shall
"not stand still during a seven or eight months' absence, you may
"easily imagine; and I assure you it contributes in no small degree to

"increase my anxiety. I am happy to say, however, that I have met "with the kindest sympathy from all my employers at Liverpool, who "all urge upon me the necessity of following the advice I have received, "and making health a primary consideration. It is possible I may go "to the Island of Madeira, or to Jamaica, I am not sure which. I "originally proposed visiting Italy, but I have been advised against it, "as my enthusiasm for art would induce me possibly to neglect my "health, by over-exerting myself amongst the innumerable wonders of "the 'Eternal City.'

"Your kind letter of (I will not say what date), which had been so "long lying before me at home, I gladly made my companion here, "thinking to have so much leisure that I should be sure to answer it. "But instead of finding repose I have been completely overwhelmed "with correspondence, which has so fatigued me that, until this day, I "have not had an opportunity of taking pen in hand to your service. "As you say very truly, time has recorded serious charges against us "both since we met; but as you also say, and I agree with you, that "they are 'false' and 'envious;' the wound they give at the time leaves "no scar behind. Our friend got nothing by his move, for the question "was not whether the alterations ought or ought not to have been "made; but whether, having been made, they were executed in as "sound and workmanlike a manner as the circumstances of the case "allowed.

"I read your flattering and enthusiastic sentences with amazement, "and regret that I am unable to reply to them with the warmth and "energy they deserve; nevertheless, the sentiments they convey are "entirely congenial to my own ideas.

"You may possibly have heard that I have obtained the Lunatic "Asylum at West Derby (for that division of the county) to build, and "that my plans have been highly approved of by Her Majesty's Com- "missioners in Lunacy. I am also to do the Parish Offices at Liverpool "when they can decide upon a plan, which they have been about "eighteen months in doing, and kept me all that time pretty closely at "work with suggestions, alterations, and new committees (who undid "all their predecessors had accomplished), correspondence, &c., and "about eleven different plans.

"Mr. H. Earle's and Mr. Hornby's houses I think you knew of some "time since. I am also building a little house for the Mayor, at New "Brighton.

"H. L. E."

Soon after this letter, it became necessary for him to leave England, and Mr. Rawlinson, at his urgent request, consented to act as his deputy during his absence, Mr. Cockerell having consented to attend to all matters of architectural detail.

"KINGSTON, JAMAICA, Oct. 22nd, 1847.

"Our departure from Southampton was a most miserable day, thick "Scotch mist falling, which compelled upwards of 40 or 50 passengers "to stow themselves in the cabin of the small steamer which was to "take us to the 'Avon.' This place was about 14 feet square, and as "they kept us there upwards of an hour before starting, you may "imagine the state of the atmosphere, and the misery we were in. The "extreme fatigue I had undergone would have compelled me, under "any circumstances, to keep my bed for a day or two, and by so doing "I entirely escaped anything like sea-sickness. The officers on board "admitted that the first four or five days we had an unusually rough "passage; during the rest of the voyage it was occasionally rough, but "nothing in comparison to the Bay of Biscay. However high the "glories of the sea may be extolled,—and who as a patriot would not "extol them with a view to maintain our glorious independence?—yet "give me, personally, *terra firma*. I was told I should derive great "benefit from the constant exercise, 'without fatigue,' which the motion "of the vessel would give. I suffered fatigue, however, to a great "degree; and, as we approached the tropics, the heat of the cabins, the "tremulous motion produced by the engine, the entire absence of any "comfortable seat on deck, although we had between 70 and 80 pas-"sengers, rendered the whole of the voyage, with very few exceptions, "irksome and tedious, and I assure you I was heartily glad to get on "shore. Mrs. E. being laid up on our arrival, you may imagine I have "not spent my first week on shore very agreeably. I cannot say much "for our companions on board; a great many foreigners, one or two "agreeable Germans, but the rest sad-looking ruffians, chiefly Spaniards. "Our captain was exceedingly kind and attentive to us, and all the "officers were very pleasant nice fellows, which rendered it less uncom-"fortable than it otherwise would have been. We first touched at "Madeira, a most striking mountain rising abruptly from the sea. I "did not go on shore, being too unwell, but from what I heard and saw "I should not like it for a residence. Our next land was Barbadoes, "after a fortnight's voyage without sight of land, with a beautifully "smooth sea, the thermometer at 80 degrees, with a good awning over

"us; but we sighed in vain for the usual trade winds, and had none "but slight breezes against us. About 24 hours brought us to Grenada, "a remarkable and picturesque island, but with such innumerable un- "dulations, that the vast number of valleys, I think, must render it damp "and uncomfortable as a residence.

"I am inclined to hope strongly that the climate will agree with me, "though in this close town I find the heat in our sitting-room, with "every window open, 86 degrees, to be rather enervating.

"H. L. ELMES."

This pleasing anticipation, however, was not destined to be fulfilled; he died on Friday, the 26th of November, 1847, in the 37th year of his age, and England lost a worthy son.

Many instances have occurred of men of genius dying prematurely, and the fact that the age of 36 has proved fatal to at least four men of undoubted genius—Raphael, Burns, Byron, and Elmes—has led to a general impression that ardent devotion to intellectual pursuits, and the cultivation of the higher faculties of the mind, are unfavourable to longevity. But this is not the case, and architects, artists, men of science, and even poets, have a longer tenure of existence than the average of mankind. This is remarkably the case with regard to those long-suffering, much-enduring, and often scantily remunerated professors of the noble science of architecture. Of the eight architects whose biographies are written by Allan Cunningham, the average duration of life was 73 years, which is 23½ years longer than the average duration of existence. The great mortality that prevails among infants makes the average length of life not much more than 30 years, but taking the duration of life of those who have passed through the perils of infancy, and have attained the age of twenty, I find, by a reference to Inwood's tables, that they live, on the average, 29½ years beyond that period, making 49½ years the term of existence for the generality of mankind; but Bishop Williams of Wykham, Lord Chancellor of England under King Edward III, and who also enjoyed the

higher honour of being architect of Winchester Cathedral, attained the age of 80. Inigo Jones lived beyond that age, and Sir Christopher Wren, one of the greatest of architects, and physically one of the smallest of mankind, lived to be upwards of 90. Sir Robert Smirke, the architect of the Post-Office, London, died recently in his 94th year.

A most judicious critic and able architect, speaking of St. George's Hall, says—

"In regard to its situation, the building has been fortunate. "It occupies the most central position in the town, fronting "some of the most important thoroughfares, and surrounded "by an area sufficiently extensive to exhibit its proportions "to the best advantage. The immediate contiguity to the "Railway Station, which discharges its passengers directly "opposite to the principal front, contributes not a little to "the celebrity and fame of the building—the general effect "on a traveller just emerged from the darkness of the "tunnel being strongly, almost dramatically, picturesque. "Another advantage it possesses is that of size, absolute "bulk being a powerful element in the production of grand "and noble impressions. In this respect the building before "us stands almost, if not quite, pre-eminent amongst the "secular structures in the country. Our magnificent cathe-"drals derive their beauty from sources and associations of "an entirely different nature. Such palatial edifices as "Somerset House, or the British Museum, are rather clusters "of buildings, surrounding open courts, which the eye cannot "comprehend from any single point of view; so that there "are few buildings in the country, forming a solid mass "under one roof, which surpasses it in dimensions.

"The plan of the building is simple in its arrangements, "and is soon described. The centre is occupied by the Great "Hall, attached to which at each end, and opening therefrom,

"are the Assize Courts;—the hall filling the place of West-
"minster Hall to the London Courts of Justice, or the 'Salle
"des pas perdus' to the French Courts. A corridor encircles
"the hall and courts, communicating on the east side with
"the external portico, and having on the west side of the
"hall a range of subordinate apartments. The south end is
"terminated by a vestibule opening to the southern portico.
"The north end terminates in a semicircle, within which is a
"spacious loggia or entrance, above which on the upper story
"is placed the small concert hall. The corridors are repeated
"on the upper floor, from which access is gained to the
"galleries of the great hall, and to a range of apartments
"over those described above. The grand jury room is
"situated over the southern vestibule. These details, with
"the various staircases of communication, comprise the whole
"arrangement of the building above ground. It would be
"quite out of place to describe the labyrinth of passages and
"vaults in the lower regions, comprising the warming and
"ventilating apparatus, the steam-engine for working the
"organ bellows, the kitchens and cooking ranges, the
"prisoners' cells, &c.

"Returning once more to the exterior, let us contemplate
"the building in its south-eastern aspect.

"The first thing that strikes us is the clear indication
"afforded by the external elevation of the internal distribu-
"tion. The large central mass rising above the surrounding
"roofs clearly marks a spacious and lofty apartment within.
"This feature imparts massive boldness and dignity to the
"entire composition, and, by its extent of plain surface, gives
"that degree of breadth and repose which is essential in
"every great work of art.

"Some central feature is necessary in every large building
"to give unity of effect, and to concentrate the attention.
"This is often accomplished by a dome or cupola, but the

"result is too frequently that of dwarfing the sub-structure, "and robbing it of its just proportions. In the present case "this has happily been avoided. The central mass, in its "plainness and horizontality, forms a sufficient counterpoise "to the richness of decoration below and to the vertical lines "of the columns, without any painful predominance. It may "be mentioned, also, that another important element of "beauty—that of graduation—is developed from the cornice "upward, by the receding lines of the attic, forming an "intermediate step between the main order and the crowning "mass. The east portico, with its sixteen columns and its "lofty flight of steps, forms a promenade worthy of Greece "in her palmiest days. The open galleries on each side, "with their square pilasters partially filled up below, are "novel in design and effective in the result. Of the southern "portico we shall have occasion to speak hereafter.

"It has been objected to the exterior, that each of the four "sides is dissimilar, thus marring the symmetry essential to "every classic structure. This objection, when carefully con- "sidered, does not appear to have much weight. Since the "eye can only command two sides at once, if each side be "symmetrical in itself, and not discordant with those which "may be seen in conjunction, the sense of harmony is fully "satisfied. The west front carries out more fully the appli- "cation of square detached pilasters or columns, the effect of "which is hardly satisfactory, their clumsy massiveness when "seen in perspective being anything but pleasing. Exception "has been taken to the curved lines of the northern end as "being out of keeping with the other parts of the design, "but, as it appears to us, without sufficient cause. If an "excrescence, it is a graceful and elegant one, and needs no "apology for being where it is.

"The exterior of the building generally, bears unmistake- "able marks of genius in its conception. Roman in the style

"and order selected, the refinement of its details is suggestive "of the noblest period of Grecian art. On the whole the "result may be pronounced one of the most successful efforts "of modern times.

"We will now proceed to make a few remarks on the "architecture of the interior, and regret that the same meed "of praise cannot here be awarded. The arrangement of the "plan is in the last degree objectionable. A large hall, of "the imposing dimensions of the one under consideration, "should be approached through a noble vestibule. The "principal entrance should be at the end, that the fullest "perspective effect may be obtained, and that the first impres- "sions may be of the most striking character. In the present "instance all experience of this nature has been entirely "ignored. From the lofty grandeur of the eastern portico "we enter by what appears externally a door of imposing "proportions, but which is in reality a huge sham. We find "ourselves in a low, narrow, and dark corridor, crossing "which we immediately enter the great hall on one of its "sides. The æsthetic effect is extremely bad, and the prac- "tical inconvenience is so great that it is impossible to use "the eastern entrances on any public occasion. The southern "access is still worse. The external portico is only approach- "able by a small portion of one end. We have here before us "a still greater sham than on the eastern side. An immense "door, with elegant architectural decorations, promises to "open upon an equally imposing interior; but alas! the "only moveable portion of the door is a low-browed wicket, "which gives access to a moderate-sized vestibule, the ceiling "of which is about half the height of the doorway—the 'dim "'religious light' serving little more than to make darkness "visible. From this the visitor has to grope his way, right "or left, through a series of dark, narrow, and tortuous "passages, till he finds himself entering the hall by the same

"doors as those above described, or corresponding ones on "the western side. The southern entrance is thus for all "public purposes utterly useless, and is accordingly never so "employed. Under these circumstances, the only available "access is by the north end, which is the one commonly used "on public occasions. The vestibule itself is spacious and "handsome, though somewhat deficient in height, but the "external doorways are narrow and mean. In this magnifi- "cent building, erected for all time, regardless of cost, to this "complexion are we come at last,—that with two of the finest "porticos and *quasi* entrances in the kingdom, our only "available means of access for the public is by three door- "ways on the basement floor, no larger than a common house "door, without a particle of shelter. The great hall in itself "is worthy of the external design, in grandeur of conception "and beauty of detail. The material, in its rich costliness, "contributes much towards heightening the effect. The "polished red granite columns—the marble and alabaster "balustrades—the bronze gates—the encaustic tiled floors— "combine, with the richly decorated vault, to produce a "splendour of effect which enhances the greatness of its "architectural proportions. Much of the interior design is "from the pencil of Professor Cockerell, R.A., to whom the "completion of the building was entrusted after the lamented "death of the architect.

"The two assize courts are rooms about 60 feet square, "well adapted for their purposes in point of arrangement. "Unfortunately their acoustic properties have proved in- "curably defective, after many attempts to remedy them. "The same may be said of the great hall, where probably the "defect was unavoidable from the nature of the construction.

"The small concert hall on the upper floor is quite a gem "in its arrangement and decorations. The plan is semi- "circular, with a light gallery round. The taste displayed in

"this apartment reflects the highest credit on Mr. Cockerell,
"from whose designs it was completed. Its acoustic proper-
"ties are remarkably good.

"Before concluding, allusion may be made to the vault
"over the great hall, executed in brick, with a span of 80
"feet. It is a daring piece of construction, and has succeeded
"admirably.

"We here close our remarks on this building, which, with
"some defects of plan, is the architectural glory of Liverpool,
"and one of the greatest triumphs of art in modern times."

The difficulties and the defects here touched upon appear to me to be inseparable from the style of architecture that was determined on. Vitruvius says, that the three chief excellencies of a building should be strength, beauty, and convenience; and though nothing can surpass the strength or excel the beauty of St. George's Hall, yet nothing can be more unsuitable for the conveniences and requirements of the present age than the style of architecture which was absolutely required for a heathen temple. The exteriors, indeed, were surpassingly beautiful, but the interior was merely a dark receptacle for the worship of the statue of an idol. The adoption of this style of architecture, which, carried out in its so-called purity, entirely forbids the introduction of windows, or fenestration as it is technically termed, imposed restraints and difficulties which even the genius of Elmes struggled with in vain. He was obliged to give way, and the consequence is, that though three fronts of St. George's Hall are without windows, he was obliged to introduce them in the western front, sacrificing thereby the unity of the design, or otherwise the magnificent Hall, and all the various offices in connection with the assize courts would have been in total darkness. But, though no style presents greater difficulties to the architect than the strictly

Grecian, in its adaptation to the practical requirements of modern existence, either public or domestic, perhaps no architect ever struggled with them more energetically or more successfully than the subject of this memoir.

My personal reminiscences of Mr. Elmes are but few and slight, and, except for the last accidental interview that I had with him, would be scarcely worth recording. Mr. Elmes frequently called at the Town Hall, to arrange incidental matters that arose between himself and the then Corporation Surveyor, Mr. Franklin, the architect of Dr. Raffles' Chapel, and under whom I was then the principal architectural draughtsman. The Council had directed their Surveyor to make designs for building the Police Offices, since erected in Dale Street, on the former site of Islington Market, and where now stands the Wellington Column. One feature of the designs I recollect well, having drawn them out, under Mr. Franklin's directions, with my own hand, was a magnificent circular portico at the west end of the building, which Mr. Elmes, in a conversation I had with him when we were looking over the plans together, objected to, on the ground that, as the northern end of St. George's Hall had a circular portico attached, and would be seen in immediate juxtaposition with the proposed circular portico of the police courts, there would be too much uniformity of design, and that one portico would clash with and injure the effect of the other. But the intention of erecting the Police Offices on that site was ultimately abandoned. I left the Town Hall, and entered into business as a contractor, and saw nothing of Mr. Elmes for a long time, till I met him accidentally at the Athenæum. This was a short time previous to his departure for Jamaica, and he was in a very low state of physical and mental depression. He complained bitterly of the opposition he had had to encounter in the objections of influential men, who called themselves practical, to the construction of the great vaulted

roof of the hall, of which they predicted the failure; and the iron of this opposition seemed to have sunk into his soul. The arched roof, however, notwithstanding strenuous opposition and sinister predictions, has been executed, and gives now, after the trial of above 20 years, not the slightest symptom of giving way, and may now be considered as safe, except from the shock of earthquakes, or the destructive fire (which Heaven avert) of modern artillery. The interview gave me the deepest pain, for Death seemed to have set his stamp on his attenuated features, and I parted from him with melancholy forebodings, which were but too soon realized. The well-known lines of Byron on the death of Kirke White are especially applicable to Elmes:—

"Oh! what a noble heart was here undone,
When Science self-destroyed her favourite son;
Yes, she too much indulged the fond pursuit,
She sowed the seed, but Death has reaped the fruit;
'Twas thine own genius gave the fatal blow,
And help'd to plant the wound that laid thee low.
So the struck eagle, stretch'd upon the plain,
No more through rolling clouds to soar again,
Viewed his own feather in the fatal dart,
And winged the shaft that quiver'd in his heart.
Keen were his pangs, but keener far to feel
He nursed the pinion that impell'd the steel;
And the same plumage that had warm'd his nest,
Drank the last life-drop of his bleeding breast."

MEDIÆVAL SIGNACULUM OF SAINTS EDWYN AND ECGWYN.*

Supplemental and Correctional Note.

By Henry Ecroyd Smith.

This remarkable relic, having become known to an enlarged circle of antiquaries and students of our national history, has excited no little interest in many quarters, resulting in my receipt of several communications of value, some in further elucidation of the subjects broached, whilst others are corrective of statements obtained, in most instances, from well-known authors, and held to be reliable. I gladly avail myself of the opportunity to place these additional remarks where they will be published contemporaneously with the original paper, rather than insert a separate communication in a succeeding volume.

Upon good authority I am assured the Holy Chrism is not, neither has ever been, used in the rite of Extreme Unction; likewise that no evidence exists to show that the signs termed Ampullæ were ever used to *contain* this holy oil. In fact there appears strong ground for doubting their special connection with the sacred vessel at Rheims. From a very early period in the history of the Christian Church, down to our own times, a custom has prevailed of abstracting oil from the lamps sustained before the tombs of martyrs, and the shrines of confessors and virgin saints, for devotional purposes. When occasion required the transmission of such oil to any distance, it was enclosed in phials of *glass*. A less fragile material was, however, necessary for the use of pilgrims who often collected the oil at every shrine they reached in the course of their journeyings. Hence lead or pewter came to be employed for these receptacles. The use of this variety of Pilgrims' Signs proves to have been by no means confined to France and England, inasmuch as several of those pub-

* *Vide* p. 165.

lished by Mr. Roach Smith bear an unmistakably Byzantine character. Though, perhaps, generally manufactured and sold at the shrines chiefly resorted to by pilgrims, examples exist which conduce to a belief in their occasionally being made for the devotees of consequence, instance those in the collection of M. Forgeais, at Paris,* impressed with the arms of Charles VI and his Queen, Isabel of Bavaria, the Dukes of Orleans and Burgundy, the Constable Du Guesclin, and other persons of rank. One, published in the *Archæological Journal* some years ago, bears a crowned W, thus likewise betokening a personal character and a special manufacture.

In addition to Mr. Roach Smith's notices of kindred relics, some interesting information is supplied by the Rev. Thomas Hugo, M.A., in a communication to the Society of Antiquaries, entitled "Notes on a Collection of Pilgrims' Signs, "of XIII, XIV, and XV centuries, found in the Thames," and published in the *Archæologia*, Vol. xxxviii, p. 128.

In connection with the extract from "*The Vision of Piers "Ploughman*," it appears that the pilgrim really bore by his side a *bowl* and a bag, and a hundred of ampuls, upon his hat being set signs of Sinai and shells of *Galicia* (from the shrine of St. James of Compostello); his cloke was studded with *crosses*.

St. Paulinus.—Baines incorrectly states this missionary and first bishop of York to have been exiled from Northumbria in 625, this being the year in which he was consecrated; his banishment from the kingdom dates from 633 to 635.

St. Edwyn.—The battle in which Edwyn lost at once his army and his life, has in designation been confused by some writers with the victory achieved by his successor, Oswald, near Hexham. There can, nevertheless, be little doubt that Hatfield Chase near Thorne and Doncaster, anciently called Hœthfelth, is the veritable scene of the frightful carnage consummated by Cadwallo and Penda. Broken swords and

* *Revue Archæologique*, 1861; *Mai*, p. 388.

other relics of the encounter have been found at a considerable depth by peat cutters.

St. Ecgwyn, "Bishop and Confessor."—The latter title has no connection with the rite of confession of sins; it designates one who has suffered much for the Church, *short of death.*

I have continued the orthography of the names of the last-named Saints, selected as believed to be the correct Saxon. Diversity of opinion exists, more especially as regards Ecgwyn. It is contended that *Eadwine* and *Ecgwine* can alone be correct, *wyn* and *wine* (the former meaning friend, the latter joy) being perfectly distinct elements of the language. In the following remarks, which he very courteously allows of my quoting, the latter name is alluded to among other points of historic interest and value, by the Rev. D. H. Haigh,—

"The *Vita-per Brithwaldum Monachum Glastoniensum*, "*Anno* 731, I had hitherto regarded as originally contem- "porary, but containing additions of the time of King Edgar. "*Now*, having read it again, I am convinced that it is entirely "of the latter time, but probably founded on an earlier work. "I do not, therefore, regard it as of such authority as I once "did, and discard the spelling of the name (Ecgwyn or "Ægwyn). In one part, what regards the vision and the "foundation of Evesham, the bishop is introduced speaking "in the first person, and this I think may be derived from a "writing of his own. The most important documents for his "history are the commendatory letters of Pope Constantine "and the Charter of Cœnred and Offa, documents the genuine- "ness of which I do not see any ground for disputing. Written "in Rome, but under the auspices of two English kings, "and intended to have effect in England, it is by no means "surprising that they are attested after the English custom. "Both are dated in A.D. 709, at Rome, and signed by the "Pope, St. Ecgwine, Cœnred, and Offa. Both allude to the "vision. The former states that St. Ecgwine had visited "Rome in a previous year. In the latter Cœnred says that "they had travelled to Rome together in 708. This is very "important. We only know from *Ven. Beda* that Cœnred "went to Rome in 709, and that he became a monk and died "there. But the *Vita* states that Cœnred and St. Ecgwine

"*went to Rome and returned together.* This would be "true of the earlier journey, and there are circumstances "which render it probable that this took place in 703, as "Cœnred's accession is usually dated in 704, the date of the "abdication of Æthelred. But three MSS of the *English* "*Chronicle* state that Cœnred became king of the Southum-"brians in 702, and these, with all the rest, record his "accession to the kingdom of the Mercians in 704. He was, "therefore, consistently with the statement in the *Vita*, king "in the year in which the charter says that they visited "Rome, and I think that Æthelred's abdication in his favour, "immediately followed his return. Further it is said that "St. Wilfrid consecrated Evesham. St. Wilfrid returned "from his last Roman journey in 704, and remained in "Mercia until 705, because he was forbidden to enter North-"umbria. Æthelred, his friend, was still king, but on the "point of retiring, having chosen Cœnred his successor. The "fact that St. Wilfrid had exercised metropolitan authority "in Mercia in former years, when banished from his own "diocese, accounts for his having officiated as metropolitan "at the consecration of Evesham in the presence of the "metropolitan of Canterbury. It seems to me clear, there-"fore, that the consecration of Evesham occurred in 704. "The legend on the seal says 'three kings gave gifts' on "the occasion. These would be Æthelred, Cœnred, and "Æthelheard king of the Hwiccas (people of the district now "called Worcestershire); they are represented sitting together."

Seal of Evesham Abbey.—Since the publications of Dugdale and Tanner, early impressions in sufficient number have been discovered to enable sigillarists to effect a complete restoration of this remarkably curious seal. The inscription around the herdsman and his house, on the reverse, reads correctly thus—

"EOVES . HER . WONEDE . ANT . WAS . SWON .
FORPI . MEN . CLEPET . PIS . EOVISHOM ."

The modern English of which is simply—

"Eoves here dwelt, and was a swain,
Therefore, men call this Eovisham."

The Latin circumscription proves to be, "DICTIS . ECGWINI .
"DANT . REGES . MVNERA . TRINI . OMNIBVS . VNDE . PIE .
"NITET . AVLA . SACRA . MARIE ."

PROCEEDINGS,

TWENTY-FIRST SESSION, 1868-69.

ANNUAL GENERAL MEETING,

Royal Institution, Colquitt Street, Liverpool, October **19th, 1868.**

THE REV. DR. HUME, IN THE CHAIR.

The Minutes of the Meetings held on May 28th and July 30th, were read and approved.

The SECRETARY read the following

REPORT.

The close of the Session 1867-68 completes the second decade of the Society's existence, and the Council are gratified to find that, after twenty years which have elapsed since its formation, the objects for which it was established still continue to excite interest, and notwithstanding the great changes which have taken place in the physical and social aspects of Lancashire and Cheshire during that period—the extension of railways causing residences to be multiplied in the suburban districts, and the rapid spread of cheap literature superseding in a great measure the necessity for oral discussion in the various societies—the Historic Society has steadily maintained its regular course of Meetings, and the Papers contributed by its Members are as numerous and important as heretofore. During the past Session thirteen Meetings have been held, at three of which a large number of the Friends of Members, including Ladies, have been present. Thirteen New Members have been elected during the Session, and eighteen Papers have been read. Twelve of these will appear in the forthcoming Volume, which is now nearly ready for distribution. These Papers will be illustrated with Lithographs and Woodcuts, equal, it is believed, to any that have hitherto appeared in the Society's Volumes.

The alteration which was made last year in the Constitution of the Society by the abolition of the Sectional Divisions, has been carried out. The purposes for which it was effected were to enable the business of the Society to be conducted more efficiently, and to the greater convenience of the Members of the Council and Committees.

The removal of the Society's place of Meeting to the Royal Institution has, it is believed, proved more convenient to the Members generally.

The Treasurer having been empowered to dispose of the large Bookcase which formerly contained the Society's Library, and which

it was found inconvenient to remove to the Royal Institution, has disposed of the same to the Library and Museum Committee of the Corporation. At the suggestion of a Member, application was made to the Museum Committee of the Town Council, that objects of antiquarian interest, presented to the town, might be lent for exhibition at the Society's Meetings, and the Museum Committee have, with the restrictions deemed necessary to secure the safety of the objects lent, acceded to the request.

The Council have decided to recommend the appointment of Local Secretaries, in various parts of the two counties, to extend and maintain, in their respective districts, the operations of the Society. The following gentlemen have agreed to act in that capacity—Mr. Charles Hardwick, Manchester; Mr. Thomas Newbigging, Bacup; and Mr. T. G. Rylands, Warrington.

The Council have pleasure in announcing that several important Papers have been promised for the next Session, to which they look forward with much interest, and they urge upon the Members generally to assist in promoting to the utmost the usefulness and prosperity of the Society.

The Report was unanimously adopted.

The Meeting then proceeded to the election of the Officers and Council for the ensuing year, and the result was stated from the Chair, as shown on page iv.

On the motion of Mr. GENN, seconded by Mr. FORREST, the Meeting was adjourned till after the First Ordinary Meeting in January, for the reception of the Treasurer's Accounts.

On the motion of Mr. GENN, a unanimous vote of thanks was passed to those who have contributed Drawings and Woodcuts for the current Volume of Transactions.

November 19th, 1868.

JOSEPH MAYER, F.S.A., President, in the Chair.

The following objects of interest were exhibited:—

By Mr. T. J. Kilpin.
A playbill, dated 1783.

By Mr. Mayer.
A collection of bronze and terra cotta objects, in statuettes and coins, collected by Dr. Storr, of Liverpool, during a recent visit to Egypt, and presented by him to the Liverpool Museum.

By Mr. Wordley, in illustration of the Paper of the evening, a number of sketches and drawings by the late Mr. Elmes, Architect.

The following Paper was read:—

A BIOGRAPHICAL SKETCH OF THE LATE H. L. ELMES, ESQ., ARCHITECT OF ST. GEORGE'S HALL, &c.,* *by T. J. Kilpin, Esq.*

* Transactions, p. 233.

December 3rd, 1868.

T. J. KILPIN, Esq., in the Chair.

The following gentlemen were duly elected Ordinary Members of the Society :—

Mr. Henry Boyle.
Mr. John Cape.
Mr. J. M. Walthew.

The following objects were exhibited :—

By Mr. Brown Thompson.

1. A portion of an early stone hatchet or other instrument, found at Chat Moss.
2. A half shilling of Elizabeth, dated 1580.

By Mrs. E. M. Humphreys and Mr. John Jones, of Abergele.

Five Roman culinary vessels in bronze, in illustration of Mr. Henry Ecroyd Smith's Paper on that subject.

By Mr. William Keith.

Specimens of photographic copies of works of art taken by the process called "Autotypography." Its chief characteristic is that the pictures do not fade, and partake of the colours of the originals.

By Mr. Henry Ecroyd Smith.

An impression in wax of the seal of St. Margaret, made in the 14th century; also several coins of Scotland.

The following Paper was read :—

A NOTICE OF ROMAN BRITISH CULINARY VESSELS FOUND IN NORTH WALES,* *by Henry Ecroyd Smith, Esq.*

December 17th, 1868.

HENRY DAWSON, Esq., in the Chair.

The following Paper was read :—

OBSERVATIONS ON POPULATION STATISTICS,† *by T. A. Welton, F.S.S.*

January 14th, 1869.

JOSEPH MAYER, F.S.A., in the Chair.

The following objects were exhibited :—

By the Rev. Dr. Hume.

A halfpenny token, inscribed "Peter Atherton, his halfpenny, "1668."

* Transactions, p. 19. † *Ibid.*, p. 55.

By Mr. Mayer.

1. A penny token, dated 1666, bearing the name of "Samuel "Rathbone."
2. Part of a signet ring, bearing an inscription on the intaglio, "I am the seal of honourable love."

The following Papers were read:—

ON THE SO-CALLED "PETRIFIED HUMAN EYES," FOUND AT ARICA, PERU,* *by the Rev. Dr. Hume.*

THE GAINS AND LOSSES IN HISTORIC PROGRESS,† *by David Buxton, F.R.S.L.*

THE HISTORIC SOCIETY OF LANCASHIRE AND CHESHIRE *in Account with*

Dr. JOHN G. JACOB, *Treasurer.* *Cr.*

	£	s.	d.		£	s.	d.
I. THE VOLUMES:—				By Balance, last Account	56	14	8
Delivery, Vol. VII, N.S.	£5	5	8	„ Receipts in Session XX, viz.:—			
Printing Vol. VIII, N.S.	106	3	3	Arrears	31	0	2
Ditto ditto	8	15	6	Entrance Fees	5	5	0
Riby and Williams	4	12	0	Annual Subscriptions, Sess. XX	140	11	10
Jas. Lawson	18	2	0	Book Covers and Diplomas	0	3	0
			134 18 5	Sale of Bookcase	60	0	0
II. SESSIONAL EXPENSES:—							
Printing and Posting Circulars, &c.	16	1	6				
Clerk Copying Laws	0	12	6				
Insurance	1	8	0				
Mrs. Johnson (Refreshments)	13	3	0				
S. Burke (Attendance)	2	17	0				
Rent of Roome	10	10	0				
Assistant Secretary	25	0	0				
Postage Stamps	1	7	1				
Ditto ditto	1	13	0				
Collector's Commission	5	3	1				
Miscellaneous Expenses	1	9	1				
Stationery	2	12	9				
			81 19 6				
III. SPECIAL EXPENSES:—							
Fitting up Book Cases	33	0	0				
Printing Laws	2	12	0				
Excursion	1	10	11				
			37 2 11				
			254 9 10				
Balance carried down			39 13 10				
			£293 14 8				£293 14 8

By Balance brought down £39 13 10

Liverpool, 18th October, 1868.

E. & O.E.

Examined, (Signed) JOHN G. JACOB, *Treasurer.*

(Signed) PETER R. M'QUIE, E. F. EVANS, } *Auditors.*

* Transactions, p. 225. † *Ibid.*, 219.

January 28th, 1869.

JOSEPH MAYER, F.S.A., President, in the Chair.

The following objects were exhibited :—

By the Rev. W. Pope, of Oxton.

A curious painting, on glass, representing three female figures, supposed to be Court Beauties of the reign of George III.

By Mr. Thomas Edwards.

An early English cauldron or boiler, in bronze, found in the Spring of 1846 near Rhuddlan Castle, in the Vale of Clwyd.

By Dr. Kendrick, of Warrington.

1. A brass ewer or lavatorium, in the form of a lion; probably of the 14th or 15th century.
2. Two examples of mediæval seals, in which the impression of the teeth are left in the wax; one of which is of the date 1520, and the other temp. Edward II.
3. Seven specimens of Samian ware and a terra cotta lamp, found at the Roman station of Condate, near Warrington.

The following Paper was read :—

ON THE LAST POPULAR RISING IN THE LANCASHIRE LAKE COUNTRY,* *by A. Craig Gibson, F.S.A.*

February 11th, 1869.

JOSEPH MAYER, F.S.A., President, in the Chair.

Mr. Stephen Amer, Bridge Street, Birkenhead, was duly elected an Ordinary Member of the Society.

The following objects were exhibited :—

By the Rev. Dr. Hume.

1. A pair of beautiful "alforjas" or saddle-bags, manufactured in Peru, of native cotton. They had been woven in the native frame, not in the loom, and were probably made for presentation, not for use.
2. One of twenty clay vessels found in the graves of the dead, at Peru. This vessel was of the shape of a gourd and of that colour, with a monkey for the handle, and a white ribbon running round it ornamented with flying-fish.

By Mr. Mayer.

A mediæval seal of an oval form, with a small loop at the back to enable the wearer to attach it to his person. It has an antique intaglio in the centre, formed of cornelian, on which is engraved a seated figure of a female representing the Goddess of Peace, bearing in her right hand an olive branch; at her feet are two lions. The stone is set in a broad massive silver margin, on which is sharply cut "SIGILL . PHILIPPI . PVLE." From the form of the characters it is thought to have been made about the 14th century.

* Transactions, p. 45.

The following Paper was read :—

On the Political Economy of Great Britain—Public Expenditure, *by B. L. Benas, Esq.*

MISCELLANEOUS MEETING.—*February 25th*, 1869.

Joseph Mayer, F.S.A., President, in the Chair.

The following objects were exhibited :—

By Mr. F. M. Youd.

A pair of enamelled vases, from the Summer Palace, Pekin, of 16th century; enamelled hand-basin, from the Summer Palace; enamelled birds, from Pekin; incense vase, from Pekin; hand-baskets, from Nangasaki, Japan; metal mirror, from Osaka, Japan; silver flowers, from the Province of Foh Kien, China; Chinese shoes of common use, Japanese cabinet, bamboo-cane boxes, Chinese manufactured silks and embroidery, and a number of Japanese and Chinese books.

By Mr. F. J. Jeffery.

A set of French medals, in bronze.

By Mr. H. Ecroyd Smith.

1. A drawing of the central portion of the unrivalled Mosaic forming the floor of the Antrium, the house of Marcus Tullus, Pompeii.
2. Barrel-shaped vessel of uncertain use, found in the gravel drift at Powka Beck, near Irleth-in-Furness, about the year 1860.
3. In illustration of his Paper—two casts of the seals of the Abbey of Evesham, each portraying St. Ecgwyn's interview with the Virgin.

The following Papers were read :—

Notice of a Mediæval Signaculum of the Anglo-Saxon Saints Edwyn and Ecgwyn, lately found in the Neighbourhood of Preston,* *by Henry Ecroyd Smith, Esq.*

Over the Ruins of Pompeii, and Up Vesuvius, in 1868, *by Thomas Gibson, Jun., Esq.*

Mr. Gibson's Paper was illustrated with several large photographs, coloured map, and stereoscopic views.

March 11th, 1869.

Joseph Mayer, F.S.A., President, in the Chair.

The following objects were exhibited :—

By Major Egerton Leigh, of Jodrell Hall, near Holmes Chapel.

1. A silver ring, of Irish filagree work of a very early period.
2. A roundell of jet, with curious carvings on both sides.

* Transactions, p. 165.

By Mr. H. Ecroyd Smith.

A small trouvaille of English shillings, lately discovered in the thatch of a house, one of the oldest tenements in Formby. They comprised pieces of four reigns, viz., one of Elizabeth, three James I, fourteen Charles I, and one Charles II. From their condition they are supposed to have been secreted two centuries ago.

By the Rev. Dr. Hume.

Three curious clay vessels, from the graves of the dead at Arica.

The following Paper was read:—

On Population Statistics, No. II,* *by Thomas A. Welton, F.S.S.*

March 25th, 1869.

Joseph Mayer, F.S.A., President, in the Chair.

The following objects were exhibited:—

By Mr. Blundell.

The skin of a remarkably large boa constrictor, brought to this country by Mr. Chappius, chief officer of the African Mail Steamer "Ethiope."

By Mr. F. J. Bailey, M.R.C.S.

1. A Bible of the reign of Charles I.
2. A Prayer Book of the reign of Elizabeth.

The following Paper was read:—

A Biographical Sketch of the late William Everard, Esq., Architect and Surveyor, Born 1725, Died 1792, *by T. J. Kilpin, Esq.*

Mr. Kilpin exhibited, in illustration of his Paper, a number of family relics of the late Mr. Everard, consisting of china, glass, pictures, wearing apparel, &c., lent by Mr. Storey and the Misses Lord.

April 8th, 1869.

Joseph Mayer, F.S.A., President, in the Chair.

The following objects were exhibited:—

By Mr. H. Ecroyd Smith.

Various small objects, lately found at Walton-on-the-Hall by Masters Thomas and William Green, including a halfpenny token of a Bristol tradesman about 1660, and a Maunday twopenny piece in good condition.

* Transactions, p. 93.

By Messrs. W. Wynne Ffoulkes (of Chester), Charles Potter, and H. Ecroyd Smith, objects in illustration of the Paper of the evening.

Objects found upon the sea beach of Cheshire, with cremated human remains from the site of the Roman objects; a Roman brass coin of Claudius found at Parkgate; and a brass seal of the Consistory Court of St. Asaph, bearing an earlier date than is recorded upon any published example, viz., 1571.

By Dr. Kendrick, of Warrington.

An oval plaque of horn, lately met with in a house at Burton, beautifully engraved with a bust of Charles I, below which is an eagle in a small medallion. Duplicates of this production were given by Charles I to his followers, but only two others are known to be in existence, one of which, now in the British Museum, was found in the pocket of James II after his decease.

The following Paper was read:—

ARCHÆOLOGY OF THE MERSEY DISTRICT, 1868,* *by H. Ecroyd Smith.*

ANNUAL EXCURSION.

The Annual Summer Excursion was made on Monday, June 21st, 1869, the locality chosen being Lichfield. The party, numbering about one hundred and twenty Members and their friends, including ladies, left Lime Street station soon after nine o'clock, arriving at Lichfield at noon. Much interest was excited by an inspection of the Cathedral and other public buildings, including the house in which Dr. Johnson was born; and the visitors were further gratified by inspecting the foundations of the palace of the former bishops of Lichfield, recently discovered in the New Palace Gardens, these foundations being courteously explained by Mr. Selwyn, son of the present bishop. At the dinner, which preceded the visit to the cathedral, the Chair was occupied by Joseph Mayer, F.S.A., President of the Society—the Rev. Dr. Hume, David Buxton, Esq. and John G. Jacob, Esq., filling the Vice-Chairs. The Mayor of Lichfield was also present, and kindly exhibited to the visitors the ancient mace and other antique insignia of office, which were of very curious and elaborate workmanship. The Excursion was rendered the more interesting from the fact that it occurred on the twenty-first anniversary of the Society's existence, which fact was suitably adverted to by the Rev. Dr. Hume, and other speakers. After tea, the party returned to Liverpool, the Excursion having been one of the pleasantest on record.

* Transactions, p. 199.

DONATIONS TO THE LIBRARY.

Ante-Nicene Christian Library, vols. vii to x; from R. A. Macfie, Esq., M.P.

Annual Report of the Directors of the Liverpool Institute.

Biographical Memoir of James Dinwiddie, LL.D.; from the Author, W. J. Proudfoot, Esq.

Boston Society of Natural History. Memoirs, vol. i, part 3. Report, 1867-68. Proceedings, vol. xii.

British Antiquities: Illustrations from Objects found in South America; from the Author, Rev. A. Hume, LL.D., D.C.L., &c.

Catalogue of Antique Greek and Roman Medals, comprising the Cabinet of M. Badeigts de Laborde.

Cambridge Philosophical Society. Transactions, vol. x, part 2; vol. xi, part 1.

Collectanea Antiqua, parts iii and iv; from C. Roach Smith, Esq.

Coal: An Enquiry into Its Extent, Duration, Consumption, and Appliances, with Remarks on Steam Engines and Steam Boilers; from the Author, Thomas Storey, Esq.

Folk Speech: Tales and Rhymes of Cumberland; from the Author, A. Craig Gibson, F.S.A.

Genealogical Chart of the Ex-Royal House of Bourbon; from the Compiler, F. J. Jeffery, Esq.

Historical and Archæological Society of Ireland, vol. i, third series.

Inaugural Address to the Compton House Literary and Debating Society; from F. J. Jeffery, Esq.

India; Future Policy of (Knighton); from C. Roach Smith, Esq.

Institution of Engineers of Scotland. Transactions, vol. for 1868-69.

Kilkenny and South-East of Ireland Archæological Society. Proceedings, No. 56, vol. vi.

Liverpool Polytechnic Society. Journal.

Liverpool Polytechnic Society. Proceedings, Thirty-first Session.

Liverpool Chemists' Association. Transactions, 1867-68.

Liverpool Architectural and Archæological Society. Proceedings, Twenty-first Session.

London and Middlesex Archæological Society. Transactions, part 9, vol. iii.

Numismatic Society, Manchester. Proceedings, vol. vi.

Philosophical Society of Glasgow. Proceedings, 1867-68

Prospectus of the Imperial Insurance Corporation, prepared by Dr. Farr.

Royal Society. Proceedings, Nos. 106-109, vol. xvii.

Royal Asiatic Society, part 2, vol. iii.

Shakespeare: His Birthplace; from the Author, C. Roach Smith, Esq.

Society of Arts. Journal, Nos. 833, 848, 854.

Society of Antiquaries, London. Papers and Proceedings, part 2, vol. xli.

Society of Antiquaries of Scotland. Proceedings, vol. vi, with Appendix.

Statistical Society of London. Proceedings, vol. xxxi, part 4; vol. xxxii, part 1.

Sussex Archæological Society. Quarterly Journal.

Sussex Archæological Society. Proceedings, vol. xx.

The Feudal Barons of Powis; from the Author, M. C. Jones, Esq.

Yorkshire Archæological and Topographical Society, Transactions, part 1.

INDEX.

A

Abbey of Evesham, 262
ADDRESS TO THE MEMBERS OF THE HISTORIC SOCIETY OF LANCASHIRE AND CHESHIRE, by Joseph Mayer, F.S.A., &c., 1
Alforjas, or saddle-bags of Peru, 261
Ampulla, The, described, 167
Amer, Stephen, 261
Ancient Metallic Arms and Utensils, observations on, by George Pearson, M.D., F.R.S., quoted, 29
Annual Excursion, 264
Annual General Meeting, 257–8
Antiquities (Later English) found on the Cheshire Shore, 1868, 216
Archæology, progress of, 2
Arts, rise and decadence of, 220
Archæology, American, 8
ARCHÆOLOGY IN THE MERSEY DISTRICT, 1868, 199
Atherton, Peter, half-penny token of, 259
Autotypography, 259

B

Balance Sheet, Session XX, 1867-68, 260
Bailey, F. J., M.R.C.S., 263
Births, statistics of, 105
Blundell, Mr., 263
Blackmore, Mr., purchase of Squier and Davis's Museum by, 7
Boyle, F., author of paper, 181
Boyle, Henry, 259
Boa Constrictor, skin of, 263
Brass coin of Claudius, 264
Britannia, origin of the name attributed to the production of tin in the country, 33
Bread Riots in the Lake District, in 1799-1800, 46
Bronze and Brass, manipulation of in early ages, 36
——— and terra cotta objects, found in Egypt, 258
Brass ewer or lavatorium, 14th century, 261
Buxton, David, F.R.S.L., author of paper, 219

C

Cauldron, early English, 261
Cape, John, 259
Children, statistics of, employed in labour, 110
Cheshire, archæological produce of, 1868, 217
Christmas carols, 219
Chinese manufactures of objects of art, 262
Circleville (America) mounds of, 10
Cuttle fishes, eyes of, found in the graves of the dead, at Peru, 232

D

Dawson, Henry, 259
Denmark, statistics of population of, 111

E

Ebn-Haukal (Arab geographer), notice of, 185
Ecgwyn (Saxon Saint), notice of the life of, 172
Edwyn (Saxon Saint), notice of, 172
Edwards, Thomas, 261
Egyptian hieroglyphics, art of reading, 12
Elmes, the architect of St. George's Hall, Liverpool, 233; correspondence with Rawlinson, 237; sketches and drawings of, 258; account of his voyage to Jamaica, 243
Emigration, effects of, 102
English people, occupations of in 1861, 72
England and Wales, movement of population of, 138; mortality in, 114; suggested statistical divisions of, 130
Evesham Abbey, seal of, 256

F

Faculties, decay of, from want of exercise, 222
Family records, desirability of a depository for, 17
Faversham (Kent), excavations at, 15
" Fausset Collection " no longer unique, 14
Ffoulkes, W. W., 264
Food, dearth of in the Lake District, in 1799 and 1800, 46
French medals, 262

G

Geographical Society, need of in Liverpool, 197
Gibson, A. C., F.S.A., author of paper, 45, 261
——— Thomas, jun., 262

H

Half-shilling of Queen Elizabeth, 205
Halfpenny token, 1660, 263
Hiouen-thsang, voyage of, 629 A.D., 183
Hoylake, inaccuracy of Poole's *Guide* to, 206
Hume, Rev. A., D.C.L., F.S.A, &c., author of paper, 224
Humphreys, Mrs. E. M., 259

I

Ibn-Batuta, travels of (1324), 184
Immortality, ideas concerning, by the Indians of South America, 230

J

Japanese objects of art, 262
Jones, J., of Abergele, 259

K

Kilpin, T. J., author of papers, 233, 258, 263
Kendrick, Dr., 261
Keith, William, 259

L

Labour, subdivisions of in England and Wales, 59
Lancashire and Cheshire, statistics of population of, 145
Leigh, Major Egerton, 262
London, mortality in various parts of, 116; density and increase of population in, 132; statistics of persons residing, but not born in, 112

M

Malay language, 192, 193
Manufactures, number of persons engaged in, in England and Wales in 1861, 79
Mayer, Joseph, F.S.A., author of paper, 1 ; 258, 262
Marriages and civil condition of the population of England and Wales, 113
Mausolius, king of Caria, identification of the tomb of, 15
Maunday twopenny piece, 263
MEDIÆVAL SIGNACULUM OF SAINTS EDWYN AND ECGWYN, SUPPLEMENTAL AND CORRECTIONAL NOTE, 253
——— signaculum, notice of, 165
——— objects found on the Cheshire shore, 1868, 213
——— seal, occurrence of, 203
Mortality in England and Wales, 114

N

NOTICE OF A MEDIÆVAL SIGNACULUM OF THE ANGLO-SAXON SAINTS, EDWYN AND ECGWYN, 165
NOTICES OF ROMAN-BRITISH CULINARY VESSELS DISCOVERED IN NORTH WALES, 19

O

Occupations of the people of England and Wales in 1861, 56
OBSERVATIONS ON POPULATION STATISTICS, PART I, 55 ; PART II, 93
ON SOME ORIENTAL GEOGRAPHERS, 181
ON THE GAINS AND LOSSES IN HISTORIC PROGRESS, 219
Oldfield, Edmund, F.S.A., quoted, 40

P

Parc-y-Meirch, Roman encampment at, 38
Petrified human eyes (so-called), theories concerning, 227
Playbill, 1783, 258
Population, increase of, 100 ; density of, 97
Pope, Rev. W., of Oxton, 261
Potter, Charles, 264
Primeval objects found on the Cheshire shore, 1868, 209
Proceedings, Session XXI, 1868-69, 257

R

Rathbone, Samuel, penny token of, 1666, 260
Report of the Census Commissioners (1861) quoted, 57
Religious houses in the Ribble District during the Norman period, 170
Report of Session XXI, 1868-69, 257, 258
Riot at Ulverston at the commencement of the 19th century, 51
Roman coin found at Parkgate, 199
——— remains, observations on those hitherto discovered in the Vale of Clwyd, 36
Roman-British culinary vessels found in Denbighshire, 20
Romano-British objects found on the Cheshire shore, 1868, 210
Roman culinary vessels, 259
——— bronze vessels discovered on Castle Howard estate, Yorkshire, 40
——— objects discovered at Ribchester, 34
——— encampment at Parc-y-Meirch, North Wales, 38

S

Saxon antiquities found on the Cheshire shore, 1868, 213
Seals used in monasteries, 178
Signacula of the Middle Ages, 167
Smith, H. Ecroyd, author of papers, 19, 165, 199 ; 259, 262, 264
Smith's, Piazzi, theory of pyramidal revelation, 15
Smith, C. Roach, 15
Soliman, voyage of, in the 9th century, 183
St. George's Hall, Liverpool, erection of, 233 ; description of, 245
Statistics of population, 55
St. Asaph, seal of the Consistory Court of, 202, 264
St. Margaret's seal, 14th century, 259
Stone hatchet found at Chat Moss, 259
Stoves, use of by the Romans, 42
Stone, age of, 8
Squier, George, Archæological investigation of, in America, 14

T

THE SO-CALLED "PETRIFIED HUMAN EYES," FROM THE GRAVES OF THE ANCIENT INDIANS, ARICA, PERU, 225
THE LATE MR. ELMES AND ST. GEORGE'S HALL, 233
THE LAST POPULAR RISINGS IN THE LANCASHIRE LAKE COUNTRY, 45
Thompson, Brown, 259
Tin, more valued in ancient than in modern times, 32
Tin-plating, observations on, 33-5
Town, definition of, 96
Trouvaille of English shillings, 263
Trades and professions, statistics of persons engaged in, in England (1861), 58 ; method of classifying, 63

V

Vandalism by the bishop of Quesaltenango, 11

W

Walthew, J. M., 259
Welton, Thomas A., author of papers, 55, 93 ; 259, 263
Wilderspool, excavations at, 199

Y

Youd F. M., 262

FINIS.

T. BRAKELL, PRINTER, COOK STREET, LIVERPOOL.

Princeton University Library
32101 042846236

14644
.462
(1868-69)
v.21

This Book is Due

v.21
ncashire

Annex A size 3

JUN 15 2002

3

ANNEX

Summer 1994